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ABSTRACT

In 1991, a project studied implementation of the American Society for Training and Development's Workplace Basics model. Field testing was conducted in two Virginia industries: Corning Incorporated in Waynesboro and American Safety Razor (ASR) in Verona. Corning had fewer than 100 employees and an 85 percent female work force; it had shifted from manufacturing to service and distribution. ASR was a larger (650 employees) manufacturing facility with a strong union. Project outcomes at Corning were lauded as positive, valuable, and worth the time and energy. The most significant outcome at ASR was the new structure for communication and decision making. The basic skills in these sites were reading, writing, mathematics, communication, and problem solving. Work design, work environment, and management practices determined the program's scope. Information needs included clear statements of what the job entails, how to accomplish it, and its relationship to the larger organization. Program development and implementation took time and required significant employee involvement. Skilled leadership was required. Training offered in weekly 1-hour segments allowed participants time to reflect and practice within the work environment. Continued lack of clear understanding of how organizational needs are related to skills, skills to performance, and performance to results suggested difficulty in getting support for evaluation. (Appendixes contain the following: a blueprint for program implementation; national and local economic climate; survey results; and a 24-item bibliography.) (YLB)

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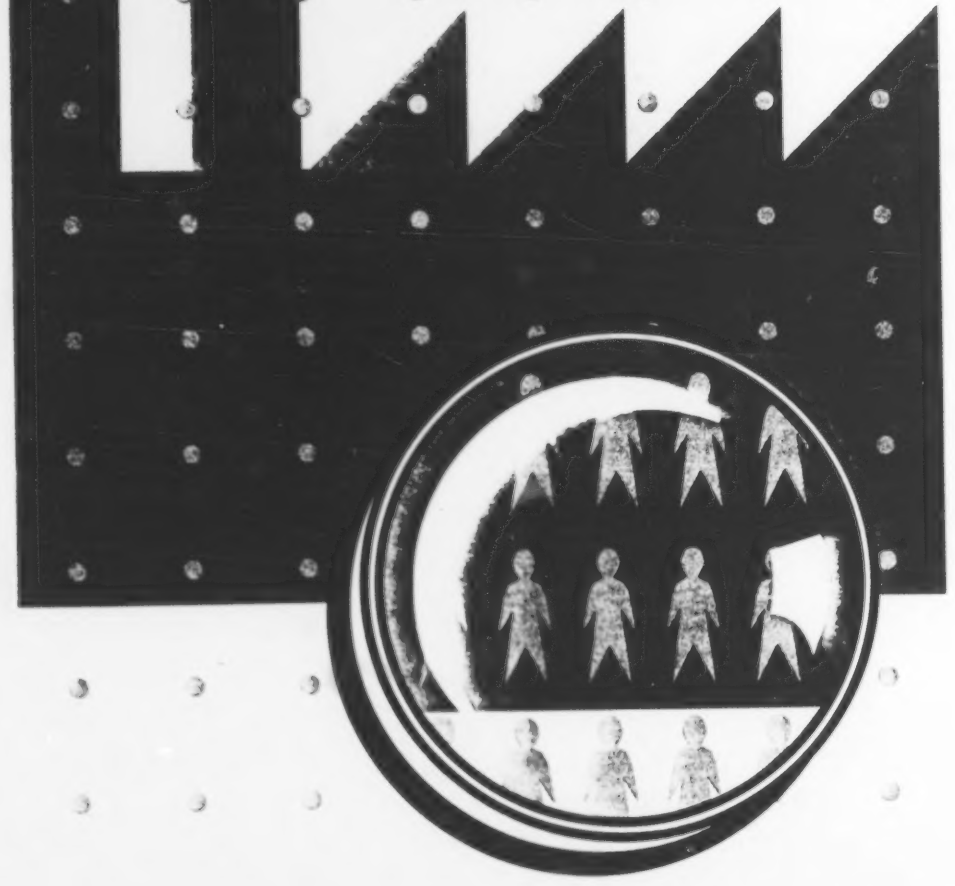
BEYOND TRAINING

A Field Test of the American Society for Training and Development's Workplace Basics



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BEYOND TRAINING:

A Field Test of the American Society for Training & Development's Workplace Basics

by Diane L. Foucar-Szocki

Education & Training Corporation, 1992

Workplace Basics Field Test

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Table of Contents

ACKNOWLEDGEMENTS **5**

EXECUTIVE SUMMARY **7**

BEYOND TRAINING: A FIELD TEST OF THE AMERICAN SOCIETY FOR DEVELOPMENT'S WORKPLACE BASICS **15**

Workplace Basics Materials 16

Methodology 16

SITE ONE: CORNING INCORPORATED, WAYNESBORO, VIRGINIA **17**

Project Introduction and Implementation 18

Skills Analysis and Development 20

Project Outcomes at Corning 21

Corning and the Workplace Basics Materials 22

SITE TWO: AMERICAN SAFETY RAZOR, VERONA, VIRGINIA **23**

Investigation 23

The Training Plan 25

Project Outcomes at ASR 28

ASR and the Workplace Basics Materials 28

WORKPLACE BASICS FINDINGS AND DISCUSSION **30**

Overview 30

Skills 31

Workplace Basics Skills and Traditional Literacy Skills 31

Social Skills 31

Reasoning Skills 32

Other Workplace Basics Skills 32

Workplace Basics, Work Design, Work Environment and Management Practices 33

Information Needs of a Workplace Basics Program 34

Job Information 34

Job Training 34

Workflow Information 35

Time and Employee Involvement 36

The Need for Skilled, Knowledgeable Leadership 37

The Language of Work and the Relationship to Skills 38

Training: A Deficiency Approach or a Developmental Approach 40

Training Delivery 41

Assessment 42

CONCLUSION AND RECOMMENDATIONS **44**

APPENDICES **46**

Appendix A: ASTD's Workplace Basics blueprint and spiral 49

Appendix B: National and Local Economic Climate 51

Appendix C: Survey Results Overview 55

BIBLIOGRAPHY **59**

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A National Advisory Group provided insight and guidance throughout the project. We extend special thanks to each member. And finally, we owe much to Sarah Cheverton and Lana Powers Breese of Education Training Corporation, who took the idea of Workplace Basics and made it a reality at Corning and ASR. For their work on this final report, we thank Mike Yoquelet, Jeff Newton, Pauli Fitzgerald, Hayley Marcum and Sandi Scannelli.

Diane L. Foucar-Szocki
Staunton, Virginia
January, 1992

Executive Summary

People still remain central to the American enterprise system, regardless of how fundamentally the workplace is changing, and despite the rapid and continuing strides of technology. The concept that people make American business work was reinforced in a 1991 research and demonstration project field-testing the American Society for Training and Development's (ASTD) *Workplace Basics* materials. The results of the study, designed for use with non-management employees, yield positive evidence that people can and will positively contribute to their organizations when given the opportunity.

The findings of the study also suggest that the people working in America's small- to mid-size businesses need broad-based support to develop the expanded skills they need to compete in today's marketplace. Developing a flexible, reactive workplace requires more than training. It requires a structured system in which growth and development can take place.

This project field-tested whether the ASTD *Workplace Basics* model was possible, whether it was useful to employees and management, and whether it could be transferred to other workplaces. Field-testing was accomplished in two industries in the Shenandoah Valley of Virginia: Corning Incorporated in Waynesboro, and American Safety Razor (ASR) in Verona.

Much of what we know about how adults learn in the workplace comes from studies of people in the military as well as from training and development efforts in large corporations (Gordon, 1990; Philippi, 1988; Sticht, 1982). Often, the lessons learned and applied in these large settings are considered also appropriate for smaller businesses. This study is one of few that have assessed workplace training methods and practices at work in smaller businesses.

WORKPLACE BASICS MATERIALS

Workplace Basics (Carnevale, Gainer & Meltzer, 1990), and its companion *Workplace Basics Training Manual* (Carnevale, Gainer & Meltzer, 1990), deal with the training needed to improve the skills of American workers to meet the demands of a rapidly changing, technological society. During a three-year national study conducted by the American Society for Training and Development (ASTD) with funding from the U.S. Department of Labor, it became apparent that America's workforce needs more attention. The *Workplace Basics* materials are one product addressing that need.

American workers need essential skills that go far beyond the traditionally recognized "Big Three" of reading, writing, and arithmetic. They also need to know how to communicate effectively and how to think creatively and independently. They need to be problem-solvers. They must be adept at negotiating and at working as part of a team. They must know how to lead, how to motivate, how to improve continually.

As the United States moves into the 21st century, America's businesses

must draw on the services of workers never formally exposed to the skills now considered essential by employers in ASTD's study. Employers have identified 16 skills workers need to adapt. *Workplace Basics* and the companion *Training Manual* define these skills and explain them for corporate executives, business managers, staff development and training experts, consultants, adult educators, counselors and higher education administrators.

METHODOLOGY

Each of the two test sites was selected for specific attributes. Corning's critical characteristics were its size (fewer than 100 employees), its workforce (85% female), and its current shift from manufacturing to service and distribution. The project began at Corning in January, 1991. ASR was selected because it was a larger (650 employees) manufacturing facility with a strong union. Work began at ASR in April, 1991.

Neither organization has a training or human resource development department. No internal training expertise existed to aid training efforts. While Corning Waynesboro is part of a much larger organization, both Corning and ASR make decisions locally. Neither is large in size and scope of operations. Both can be considered small to medium-sized businesses. Throughout the study, the resources available and the obstacles faced were those of smaller, rather than larger, organizations.

Education & Training Corporation (ETC) directed the study. ETC provided each business with a Site Coordinator to direct the *Workplace Basics* effort using ASTD's *Workplace Basics* materials. During the course of the project, results were measured against the local and national economy to place data in a larger economic text.

SITE ONE: CORNING INCORPORATED, WAYNESBORO, VIRGINIA

This facility, opened by Corning in 1986, had in 1989 begun a year-long shift from manufacturing to service and distribution. At the time *Workplace Basics* was introduced, the Corning facility was enjoying a relatively stable period after five years of flux. Moderate, controlled growth prevailed. Management did not see employees as a source of performance problems, so the project's focus was a positive one of improving the entire facility. Employee involvement was essential to the success of this effort at Corning.

The outcomes of *Workplace Basics* at Corning were lauded as positive, valuable and worth the time and energy expended. Corning Waynesboro is now primed to address its ongoing organizational and training development needs. Systems are now in place to work more specifically on individual skill development. With systems in place and awareness heightened, employees may request training in skill development.

SITE TWO: AMERICAN SAFETY RAZOR, VERONA, VIRGINIA

American Safety Razor has a long history, dating back to 1860 and the development of the straight razor. The Verona facility, in operation since 1954, is ASR's headquarters and primary manufacturing facility, with smaller plants in the United Kingdom, Puerto Rico and Mexico.

Although interest in the project was high, union contract negotiations were underway at ASR. The facility was under new ownership and there was concern about entering into a venture requiring new approaches and new practices, while negotiations were pending. The decision to embark on such an effort during a contract negotiation year reflected ASR's increasing emphasis on creating a more productive work environment.

Although training was needed at ASR, developing and delivering training was a challenge because previous training and development programs had not succeeded. Chief among the significant outcomes of this project at ASR is the new structure for communication and decision-making. The formation of a Management/Labor Steering Committee allowed opportunities for change and provided a vehicle for employee training and development. A framework now exists to continue such collaborative labor/management efforts.

ORGANIZATIONAL READINESS

Work design, work environment, and management practices determine the scope of a Workplace Basics program, i.e. what skills will be acknowledged and what skills will not, according to the underlying philosophy of the company. Corning and ASR did not have sufficient organizational materials (e.g. job information, job training, workflow information) to build a skills development program. These components must be developed before a program can proceed. Clear policies and procedures must clarify issues that influence job performance.

Working from this foundation, *Workplace Basics* became at Corning and ASR a comprehensive employee development system that included training and non-training solutions. The Site Coordinators became employee development specialists, charged with identifying, designing and developing strategies for achieving peak performance.

But enhancing skills in an environment where the newly-developed skills cannot be used is counterproductive. And if no one has the specialized expertise to address the relationship of skills to performance, then the potential solutions are limited to the expertise available. The budgetary constraints of a small business may prevent comprehensive skills development from emerging as a priority. Thus, small- and medium-sized businesses may be at a disadvantage. *Workplace Basics* may be a venture too time- and budget-constraining for most small businesses to consider.

LEADERSHIP

The relationship between worker skills and job performance is complex. Assessing the skills needed in a specific work setting requires expertise. At Corning and ASR, few people understood how their skills related to their performance. *Workplace Basics* projects require trained leaders to show management and employees how developing skills can improve performance.

Employee development specialists, in businesses whose sizes match those in which we worked, need to have the capability and the authority to address employee development from a variety of perspectives. They must understand employees' contributions to organizational health. A balance must be achieved between the investment in people and in other strategies to improve productivity and profitability.

Corning and ASR have made the necessary time and fiscal commitment to continue with *Workplace Basics* beyond the project year. An internal person will work with the Site Coordinator to learn the strategies necessary to maintain the employee development system. Both facility managers indicate, however, that they would not have committed the necessary time or money for start-up of *Workplace Basics* without external funding and expertise.

SKILLS

Workplace Basics presents 16 skills, a broader set than commonly considered basic skills. The essential skills identified in these two worksites were reading, writing, math, communication and problem-solving. Addressing the traditional basic skills of our education system in this study required that employees and employers be willing to acknowledge a "deficiency". In both sites management and many non-management personnel did not acknowledge a strong need for reading, writing or math improvement. Had the study been limited to just reading, writing and math, the door for development would have closed. But because *Workplace Basics* presents a broader definition of basic skills, investigation and examination were allowed to continue.

Learning how to learn was not taught as content, but was incorporated into the *Workplace Basics* project. Overall, Workplace Basics skills are hard to talk about. They appear to take on meaning and utility only within a context. In one worksite, communication and problem solving became the focus of the program. In the other, jobs were the focus.

ASSESSMENT

Intellectual capital is essentially the contribution that people make to an organization, to its goals and output, and to their potential replacement costs (Stewart, 1991). Measuring this contribution requires understanding of its parts. The definition and the deployment of skills depends upon the goals and objectives of the organization.

Understanding what an employee contributes to organizational health

requires the ability to identify needs, to identify the skills necessary to achieve desired performances, and to measure results. This chain helps to define employee contributions and intellectual capital. These are the steps described in *Workplace Basics*. In our sites, there was a lack of clear understanding of the relationship of organizational needs to skills, skill to performance and performance to results. This lack of understanding may suggest why it was so difficult to get support for the evaluation of training.

Performance improvement, by its very name, suggests deficiency. But the deficiency does not always rest with the employee. Skills are just one of many factors that influence performance (Blumberg & Pringle, 1982). Central to establishing an effective employee development system is increasing a decision-maker's understanding of employee contribution to organizational health. Increased recognition and understanding of the relationship may lead to increased commitment to employee development.

Providing training did not necessarily link skill enhancement to organizational results. The relationship of training's contribution to results is no clearer for non-management employees than it has been for management employees (Foucar-Szocki, 1989). While efforts to link training and organizational results are worthy, it must also be acknowledged that one of the advantages of training is tangibility. Training is a real experience that indicates action.

TRAINING: A DEFICIENCY APPROACH OR A DEVELOPMENTAL APPROACH

While written as a deficiency model, strictly directed at the improvement of individual employees, these cases show that *Workplace Basics* can be a developmental approach also, constructive rather than reactive. The range of possible solutions includes both training and non-training options. The Site Coordinators developed and promoted both. *Workplace Basics* went beyond training to become an employee development system.

For an employee development system to succeed, the system must be maintained so that skills are maintained. This is a central theme of the on-going efforts at both sites. Skills must be maintained and reinforced. Training alone cannot do that. A more systematic, comprehensive approach, understood and acknowledged by all employees, helps promote continued growth.

HOW THE ASTD MATERIALS WORKED

The ASTD *Workplace Basics Training Manual* provides a good model for creating an employee development system. A major drawback, however, is its exclusive focus on identifying employee deficiencies, thus limiting development options.

The blueprint worked as written in the larger, more traditional manufacturing organization. We significantly modified the blueprint for use in the smaller self-management, total-quality organization. The ASTD materials were developed and researched with the organizational directives of larger organizations, which helps explain their greater usefulness to them.

The broadened set of skills presented by ASTD, and modified in this study, was an advantage for approaching employee development. The broader definition allowed for continued examination of employee development needs where they might have been abandoned had the definition of basic skills been solely reading, writing and math. However, the complete listing of 16 skills was too cumbersome for use and too complicated for employees to understand. The essential skills in our settings proved to be reading, writing, math, communication and problem-solving.

CONCLUSION

This study found that establishing a *Workplace Basics* program in small- to medium-sized businesses is a time-consuming and resource-intensive process. *Workplace Basics* projects take time and require significant employee involvement and commitment. Businesses must be aware of this necessary commitment.

Implementation in both sites focused on building a foundation for employee development. *Workplace Basics* will continue at both sites. At Corning, with the foundation in place, we expect that individual skill assessment may be possible and valuable. At ASR, job qualifying training will lead to greater understanding of the skill strengths and weaknesses in the workforce. Ideally, the system will respond with developmental options and organizational changes that will support growth in both ASR and Corning.

The ASTD materials worked as a framework for understanding *Workplace Basics*. The blueprint presented in the training manual is a viable plan for building employee development systems. The blueprint can be adapted to approach employee development from a developmental, as well as a deficiency, approach. The ASTD skills desired by employers serve as a broad foundation upon which individual organizations may tailor their own employee development systems. But it is also apparent that the relationship between skills and performance is complex, and it appears that professional guidance maximizes the resources available in a specific organization.

KEY RECOMMENDATIONS

1. Continue research in skill analysis, particularly for skills beyond reading, writing and math. What exactly is skill analysis? What are the ways to conduct skill analysis? How does skill analysis build on task analysis?

2. Develop consultant support and resource services through State and Federal level agencies to provide assistance to small and medium-sized business. A Workplace Basics effort requires significant resources. Such support would help small to medium-sized businesses invest in employee development systems.

3. Continue exploration and definition of learning practices, structures and environments for non-management employees. New approaches may be necessary for non-management employees whose work is more active and physical.

4. Develop ties with education professionals who are trained to explain the relationship of skills to performance through the writing of objectives. Local school districts can provide a cost-effective resource for articulating skill-to-performance relationships. These education professionals will likely need an introduction to and explanation of the business and its purposes.

5. Provide expertise to aid the implementation of employee development systems. Professional training should be provided for those likely to work with businesses and industries in this capacity, including business, education and government personnel.

BEYOND TRAINING: A Field Test of the American Society for Training and Development's Workplace Basics

The impending need for a workforce with higher skill levels has been a recent topic of much debate (BCEL,1987; Johnstone & Packer, 1987; Richie, 1988; Chisman, 1989). Recent reports suggest that American business organizations must be transformed to "high performance work organizations" if America is to regain its competitive edge in today's global marketplace (Commission on the Skills of the American Workforce, 1990; Office of Technology Assessment, 1990; Economic Policy Institute, 1991). These reports contend that it will be this transformation, and not the impending labor shortage, that will compel workplaces to provide more and better ways to train their workers.

Small businesses employing 500 or fewer people provide nearly half of all jobs in our economy, according to 1991 Small Business Administration figures. Medium-sized businesses with 500 to 1000 employees represent another sizable percentage of jobs in America. These small to medium-sized enterprises represent a significant fixture in America's economic landscape. But they are without prominence because the image of American business is the big corporation.

This image is built around the giants: IBM, Ford, GM, Motorola, RJR Nabisco. Responding to that image, most of today's research, legislation and grant-funding in workplace education is primarily directed to meet the needs of large employers, according to the same SBA figures.

Much of what we know about how adults learn in the workplace comes from studies of people in the military as well as from training and development efforts in large corporations (Gordon, 1990; Philippi, 1988; Sticht, 1982). Often, the lessons learned and applied in these large settings are considered appropriate for smaller businesses. Few major studies have assessed the workplace training methods and practices that work for small businesses. Although some of what has been learned in these larger settings can be transferred to smaller enterprises, the smaller business has unique characteristics that deserve attention.

This Department of Labor-funded study tested *Workplace Basics* (Carnevale, et al, 1990) and its accompanying *Workplace Basics Training Manual* (Carnavale, et al, 1990) in two industries in the Shenandoah Valley of Virginia. Working solely from the ASTD materials at the outset, we recorded in rich detail the starting of a *Workplace Basics* program in organizations that had never been exposed to the concept or the materials. This report is the result.

WORKPLACE BASICS MATERIALS

Workplace Basics (1990) and its companion *Workplace Basics Training Manual* (1990), by Anthony Carnevale, Leila Gainer and Ann Meltzer, are two of several recent publications dealing with the dynamics of the American workforce and the training needed to improve the skills of those workers to meet the demands of a rapidly changing, technological society. A three-year national study conducted by the ASTD with funding from the US Department of Labor (DOL) showed that America's workforce needs more attention. The *Workplace Basics* materials are one product representing the results of the national study.

One purpose of the *Workplace Basics* materials is to point out a few real and related needs in the American workplace. American workers need essential skills that go far beyond the traditionally recognized "Big Three" of reading, writing, and arithmetic. They also need to know how to communicate effectively, and how to think creatively and independently. They need to be problem-solvers. They must be adept at negotiating and at working as part of a team. Leadership skills are important. So are skills in organizational effectiveness, motivation and career development. Organizational effectiveness addresses the role of the individual within the larger organization. Motivation and career development focus on enhancing individuals' ability to address their motivational and career development needs.

As the United States moves into the 21st century, it will draw on the services of workers who have not been formally exposed to the skills now considered essential by employers in ASTD's study. Training will be needed to fill the gaps and expand the skills of America's workforce.

Workplace Basics and the companion *Training Manual* are designed to provide corporate executives, business managers, staff development and training experts, consultants, adult educators, counselors and higher education administrators with a better understanding of 16 skills identified by employers as *Workplace Basics*, and to explain why each skill is considered basic. The materials also provide a blueprint helpful for trainers developing and implementing *Workplace Basics* programs. The complete skill spiral and implementation blueprint can be found in Appendix A.

METHODOLOGY

This was a case study of the implementation of the ASTD *Workplace Basics* materials in two businesses: Corning Incorporated in Waynesboro and American Safety Razor (ASR) in Verona. Each business was selected for specific attributes. Corning's critical characteristics were its size (fewer than 100 employees), its workforce, (85% female), and its current shift from manufacturing to service and distribution. The project began in Corning in January, 1991. ASR was selected because it was a larger (650 employees) manufacturing facility with a strong union. Work began at ASR in April, 1991.

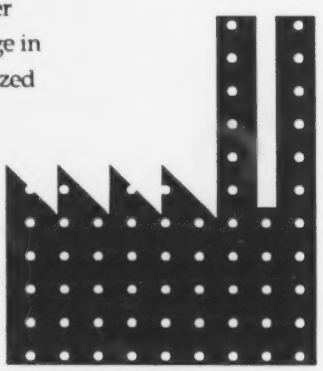
Neither organization has a training or human resource development

department. As such, there was no internal training expertise that might have helped training efforts. While Corning, Waynesboro is part of a much larger organization, both Corning and ASR make decisions locally. Neither is large in size and scope of operations. Both could be considered small to medium-sized businesses. Throughout the course of the study, the resources available and the obstacles faced were those of smaller, rather than larger, organizations.

Education & Training Corporation (ETC) directed the study and its implementation. ETC provided each business with a Site Coordinator to direct the *Workplace Basics* effort using ASTD's *Workplace Basics* materials.

Each Site Coordinator kept a journal throughout the process. These journals, augmented by documents, records, transcripts, and a final survey, comprise the collected data. Although it was intended that all key participants would keep journals, many were unable to regularly record their observations due to time pressures. As a result, meetings and conversations were scheduled, recorded, transcribed and added to the data.

During the course of the project, results were measured against the local and national economy to place data in a larger economic context. A discussion of these conditions is found in Appendix B.



Corning's critical characteristics were its size (less than 100 employees), its workforce (85% female), and its current shift from manufacturing to service and distribution. The project began in Corning in January, 1991. ASR was selected because it was a larger (650 employees) manufacturing facility with a strong union. Work began at ASR in April, 1991.

Site One: Corning Incorporated, Waynesboro, Virginia

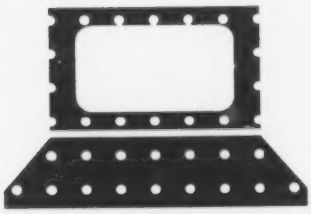
This facility was opened by Corning in 1986 to serve as a satellite packaging facility, and to manufacture Clear Advantage, a clear cookware with a non-stick surface. The Clear Advantage product line was eliminated in late 1989, bringing layoffs and cutbacks to a facility that had employed 110-120 people at peak.

The changeover from manufacturing to service and distribution began in 1989 and was completed by mid-1990. This shift in emphasis created a formal line organization termed the Corning/Revere Consumer Information Center. It now provides all consumer service for Corning, USA. This shift brought to the plant an opportunity to offer most laid-off employees new positions in the current operation.

Since opening, the facility has endured a constant state of change. In January 1991 the Facility Manager indicated that "Now is the first time in a very long time that things have settled a bit." He did not anticipate any significant

changes in operations in the near future. He was, however, promoted shortly thereafter and a new Facility Manager was appointed.

"Odd," is how the Facility Manager described the organizational structure of this Corning facility. Direct line supervisors do not exist. Work groups or teams have a peer group leader. Four "supervisors" oversee operations with more emphasis on supervising functions than people. All supervisory positions are salaried and exempt from overtime. All positions below the supervisory level are categorized according to levels of responsibility and skill. These positions are salaried, but non-exempt, leaving them eligible for overtime. In addition to this "odd" organizational structure, the organization has a stated goal of total quality and continuous improvement.



The ETC Site Coordinator introduced the project, saying one of its major purposes would be to "determine what you want—what kind of information and training system would help you, your department and all of Corning, Waynesboro not only maintain superior performance, but be even more adaptable to new challenges, new projects and new growth."

PROJECT INTRODUCTION AND IMPLEMENTATION

Employees at Corning learned of the *Workplace Basics* project via an announcement from the Facility Manager. Shortly thereafter, the ETC Site Coordinator began job rotation.

To explain in detail the project and its purpose, the ETC Site Coordinator chose a neutral location away from work. She was invited to join approximately 80 full-time employees for their quarterly breakfast meeting at a local restaurant. She introduced the project, saying one of its major purposes would be to "determine what you want—what kind of information and training system would help you, your department and all of Corning, Waynesboro not only maintain superior performance, but be even more adaptable to new challenges, new projects and new growth."

The stage was set for the project to blossom into more than just an employee remediation program. This was to be a job information and training system for continuous improvement. And such an approach fit well with the total quality philosophy of the facility and of Corning.

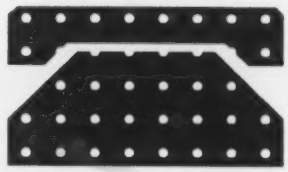
The Corning facility was enjoying a relatively stable period after five years of flux. Moderate, controlled growth was the current status quo. Management did not consider employees a source of performance problems. Without a negative focus, the project became a positive one of improving the entire facility. The Facility Manager described the project, noting that the training project would identify skills and assign them to specific functions. Then, he said, the project would raise the questions of "what are we NOT doing a good job on, what ARE we doing a good job on, and how do we bring it together in a comprehensive skills development program for a position?"

The Facility Manager wanted a "highly reactive, flexible workforce who could make it as you go... willing, ready and able to decide to do the work that needs to be done and find a way to do it." The approach shifted from negative to

positive, from eliminating deficiencies to being developmental in nature.

Because change had occurred so rapidly in the facility, since 1986, adequate job descriptions for non-management positions did not exist. Job descriptions became the necessary foundation upon which to build *Workplace Basics* skills.

Creating a flexible, useful job information system that could change with the facility was at the core of developing workplace basic skills. An initial need was a computerized database, containing the job data requested by the ASTD material (i.e. job, task, step and skills), with the potential of including skill development activities and assessments for each skill. The system, conceived by the Site Coordinator and developed by Corning's computer programmer, allowed for analysis across categories.



Investigation found that employees were quick to blame other people and circumstances, and not themselves, for potential performance problems in the facility... training would be most effective if workers could acknowledge that their own skills, or lack of them, influence performance.

For example, by keying in a certain skill, one could see all the jobs requiring that skill—or by keying in a particular task, one could see all the skills required for that task. The relational database was the end result of work accomplished by the Site Coordinator, the project Advisory Team, and Job Review Teams.

Advisory Team members were selected by group leaders and significant decision makers, not by facility management. Representatives were selected from all areas of the business and included seven non-management employees and one supervisor. The Advisory Team took a prominent role in the project. The Site Coordinator worked closely with the Advisory Team and the subsequent Job Review and Workflow Teams.

Employee involvement was essential to the success of this effort at Corning. From the outset, two philosophical decisions affected the project's outcome: 1) learning would not be limited to the curriculum or the classroom because involvement in the process itself would be a learning experience, and 2) a goal of high employee involvement was set— as close to 100 percent as possible. These decisions, made by the Site Coordinator, were not directly related to the ASTD material, but were integral to the process at Corning.

Investigation found that employees were quick to blame other people and circumstances, rather than themselves, for performance problems in the facility. In response, the Site Coordinator chose an inductive approach. She noted that training would be most effective if workers could acknowledge that their own skills, or lack of them, influenced performance. About halfway through the project year, she also noted that this approach was a vivid contrast to the ASTD approach:

"Instead of starting with the individual's performance (ASTD approach), we started from a facility approach. We are teaching people to think about what part they play in the big picture and how their jobs affect the outcomes, and finally, letting them identify their own skill development needs. I really think the folks at Corning are now ready to accept personal skill development; I'm not sure they would have

understood why it's important if we had started out with that."

The process was lengthy and detailed, yet highly involving. The Coordinator worked with employees to diagram workflow, articulate job data, identify facility-specific problems, articulate skills and coordinate the development of standard training outlines with area supervisors and group leaders. The process led to the formulation of an interim plan in April, 1991, and a final plan four months later in August for *Workplace Basics* within the Corning facility.

SKILLS ANALYSIS AND DEVELOPMENT

Skill analysis presented exceptional challenges within the Corning facility. The ASTD materials identified how to conduct a task analysis. But they never made the leap to skill analysis.

"From the experience of attempting to conduct a skill analysis, I realized I needed to understand and document the smallest unit of work—the steps involved in performing that task. I also realized that an adequate analysis would have to consider not only the steps involved in performing what we consider normal job tasks, but also, working in the culture, following safety guidelines and fully contributing to the Total Quality program," said the Site Coordinator.

ASTD's 16 skills were too complicated for employees to understand and apply to their jobs. The list of skills also proved cumbersome to record. So the skills were collapsed into three categories: the basic competencies of reading, writing, and basic math; social skills of communication, interpersonal skills, negotiation, leadership, goal-setting and motivation; and reasoning skills of creative thinking, problem-solving, and decision-making. Two categories, physical skills and vocational/specific knowledge were added to complete the skills data set.

To link the Site Coordinator's assessment with the needs of the employees, a survey was designed and conducted. This survey asked how individuals perceived their own and their department's skill development needs. The survey's results served as the platform for activities designed to develop employees' skills.

Employee performance is measured at Corning, Waynesboro throughout the facility. Annual bonuses are awarded on the basis of achievement of facility-wide performance objectives. Individual performance appraisals are not currently a part of the culture. Because of this, a focus on individual performance deficiencies was not appropriate nor encouraged during the project.

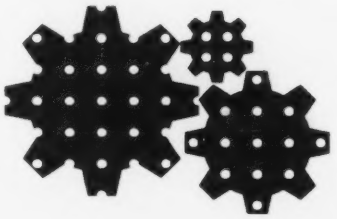
On the other hand, tension between group and individual performance measures surfaced continually throughout the study, particularly in terms of basic skill development and job performance. A partial resolution of this conflict was reached through the use of pre- and post-videotaping of individual and group interaction, as well as self-assessments, surveys and interviews. The relationship of individual skill development to organizational results was not measured. It was not clear how best to measure this relationship.

Topics for the first test-pilot series included Personal Values Inventory™,

listening skills, and creative problem solving. Everyone in the facility participated in the Personal Values Inventory™ training.

Production workers were given the opportunity of absorbing listening skills as four one-hour sessions, with one session held each week for four weeks. Problem solving evolved into six one-hour sessions, delivered over seven weeks.

Specifics about content were guided by *Workplace Basics*. However, because its listening and feedback material was too theoretical to stand alone, the Workplace Basic materials were augmented by other, more "how-to" approaches to listening. The problem-solving material was heavily supported by materials detailing the Osborn-Parnes creative problem-solving method. The problem-solving training focused on identifying and solving real work-related problems.



Corning, Waynesboro is now primed to address its ongoing organizational and training development needs. The systems are in place to work more specifically on individual skill development. With the network in place and awareness heightened, employees may request training in skill development.

PROJECT OUTCOMES AT CORNING

The outcomes of *Workplace Basics* at Corning were lauded as extremely positive, valuable and worth the time and energy expended. The Facility Manager summarized the outcomes.

She noted that the database structure, as well as the workflow process, have the potential to be valuable tools if they are used. "One of the biggest benefits," she said, "was the increased awareness of the importance of training. The groups in general have been really pleased about the problem-solving approach."

She noted a big attitude change in employees. "They are much more oriented towards trying to solve the problem rather than finding excuses." She said the fact that the people involved now have a common vocabulary was of great benefit. Concluding that the project had been well worth the time spent, she nevertheless had reservations. "The benefit would have been much more pronounced if we would have been able to devote more time," she said.

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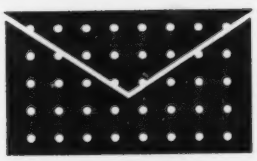
At the outset of this project, Corning was not ready to address individual deficiencies. The systems were not sufficiently developed. And there was little clear understanding or recognition of the role that skills play in organizational performance. This year was dedicated to developing systems and broad-based awareness. During the year job summaries were developed, workflow diagrams generated, and training conducted. Surveyed employees indicate that group meetings are now more productive, communication between work groups is stronger, and individual performance and problem-solving has improved. In the

coming year, it is likely that additional department-wide skill development options, tied to organizational goals and objectives, will be pursued.

CORNING AND THE WORKPLACE BASICS MATERIALS

The Corning facility was, for the most part, an appropriate place to test Workplace Basic skills. But there were shortcomings.



The framework of the blueprint, especially its focus on employee involvement and a broader set of skills, were valuable to Corning. The deficiency approach of ASTD's materials did not sufficiently address the developmental needs of the Total Quality continuous improvement environment that is Corning, Waynesboro.

The *Workplace Basics* blueprint was too narrowly focused on individual skill deficiencies and performance measures to be immediately applicable to this environment. Now that systems are in place to support individual skill analysis and development, the facility may turn to examining individual skill needs.

The materials provided no direction on how to do skill analysis for individual jobs or facility-wide relationships. The assumption that task analysis would yield the needed skills was not enough. As a result, much time was spent trying to conduct a thorough skill assessment for each job.

Additionally, the materials did not clearly articulate the extent of employee involvement necessary for a *Workplace Basics* effort. Such involvement was a pivotal requirement of the success of Corning's program. The degree and level of involvement was high, and can largely be attributed to the efforts of the Site Coordinator, who maintained and coordinated facility-wide employee participation.

The curriculum and program development guidance from *Workplace Basics* was not appropriate for a facility of this size. The materials assumed that significant fiscal, human and physical plant resources were available. In reality, the Site Coordinator was the chief human resource, and she had to work within the existing physical plant with limited fiscal resources.

Finally, the ASTD materials provided little guidance on how to structure and schedule course offerings to respond to organizational characteristics. Although working within on-going operations was central to the design and delivery of training, discovering how to schedule and structure training was a process of much trial and error.

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Site Two: American Safety Razor, Verona, Virginia

American Safety Razor has a long history, dating back to 1860 and the development of the straight razor. ASR currently manufactures, molds, packages and assembles razor blade products including single-edge and double-edge shaving products, as well as industrial and surgical blades. The Verona facility, in operation since 1954, is ASR's headquarters and primary manufacturing facility, while smaller plants exist in the United Kingdom, Puerto Rico and Mexico.

In April 1991, *Workplace Basics* was introduced to ASR at a meeting attended by ASR's Director of Manufacturing, the Vice President for Human Resources, the Personnel and Labor Relations Director, and the Quality Assurance Manager. This participation by key management personnel indicated support of, as well as commitment to, the training effort. There was no union representation at this initial meeting.

Interest in the project was high. The company was concerned with its excessive scrap rate, and identified inadequate training as part of the problem. This was, however, a contract negotiation year. The facility was under new ownership and there was concern about entering into such a venture with negotiations pending. The project was approved with the caveat that American Safety Razor could terminate the project at any time.

ASR's hourly workers are represented by the International Union of Electronic, Electrical, Salaried, Machine and Furniture Workers, Local No. 173 of the AFL-CIO. The union represents 94 percent of the workforce.

The ASTD blueprint specifically encourages early involvement of the union in a *Workplace Basics* effort. The Director of Manufacturing agreed to arrange this meeting, which took several days to schedule. During the waiting period before the meeting, the Site Coordinator familiarized herself with other areas of the plant, including Purchasing, Planning and Engineering.

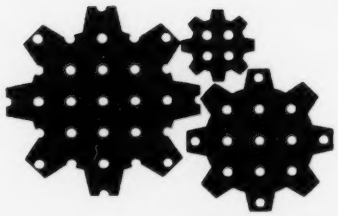
The decision to embark on such an effort during a contract negotiation year reflected ASR's increasing emphasis on creating a more productive work environment. The *Workplace Basics* model required new approaches and practices in plant operations and union/management relations. Management was willing to take these steps.

INVESTIGATION

Upon union acknowledgment of the project, investigation was immediately narrowed to the blade manufacturing area. The Site Coordinator was unable to rotate through jobs because of Union regulations and the technical nature of the work. Instead, she observed all three shifts and interviewed more than 40 employees.

Based on these observations and interviews, the Site Coordinator defined the expected outcomes of the project: "ASR wants a program for the blade area

of production. This encompasses approximately 250 people and five areas—three shifts—heat treat, surgical, perforation, grinding and quality. They have already begun surveying workers as to operations, mechanics, training, and systems weaknesses. They are looking to cut costs, not jobs. Their goals are quality improvement: 1) establish effective training for current employees and new hires that ASR can implement and 2) give employees a total picture of blade manufacturing."



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ASR's hierarchy has many departments. To mesh with this structure and stay within the ASTD framework, the Site Coordinator established a policy and decision-making Steering Committee to oversee the project. The Joint Union/Management Steering Committee consisted of the Director of Manufacturing, Human Resources and Labor Relations Manager, Quality Assurance Manager, Union President and Chief Steward and an Engineering Manager.

Although it was evident and agreed that training was needed at ASR, developing and delivering training was a challenge. While ultimately successful, throughout the course of the project the Site Coordinator had to contend with ASR's past.

Three factors influenced the training project: ASR's years of operation under previous ownership, a previous consultant project, and previous training efforts.

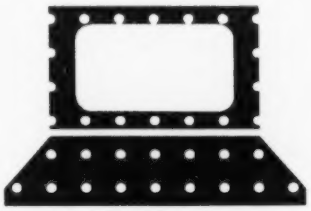
First, employees who have been with ASR for some time remember the "former owner" years, from the mid-1960s to the late 1970s, as the "good years." Current attempts at change or improvement fall short of the collective recollection of these years and are often seen as not worth the effort. Many of the management, engineering and grind operators at ASR have been employed at the plant for 15 years or more. The number of long-term ("old") employees at ASR was formerly much higher, particularly among operators. Retirement has reduced the number significantly. This is one of the reasons for pursuing *Workplace Basics*: old employees retire, taking with them untold knowledge gathered through their years—knowledge that has not been sufficiently captured or passed on to new, younger employees.

Second, approximately 10 years ago ASR hired a consultant to develop a grind manual. The manual was done well. It was, however, prescriptive with pre- and post-tests for performance. The manual was used, but it created an unpleasant and suspicious atmosphere and was abandoned.

Third, in 1987 the company invested heavily in a commercially available training program to help supervision and labor communicate better, resolve conflicts, and solve problems. The program received mixed reviews, and was

not followed through. As a result, there is skepticism about training and the likelihood that *Workplace Basics* will endure. Whatever training was to be developed through *Workplace Basics* had to be useful to workers and also focused on something that could and would change.

ASR's blade manufacturing culture is largely oral. Communication occurs in small groups, with information passed verbally from one person to another. Meetings are rare, memos infrequent. Industrial Relations, the union, and ASR publish newsletters for employees and customers, but despite these three publications, rumors abound among ASR's workforce. As an example, when ETC's Site Coordinator began introducing the *Workplace Basics* project, the Coordinator was falsely accused of designing training for ASR's newly-opened Mexico facility. Such rumors were common during contract negotiations.



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In this environment the Site Coordinator relied on one-to-one communication. She also decided to model other forms of effective communication, holding meetings, providing immediate feedback and writing memos. An employee who participated on one of the Advisory Teams commented that the Site Coordinator was "training by example."

While these factors influenced the project, the Site Coordinator was able to place them in context, commenting in her journal:

"It is inadvisable to come to an environment such as this naive. One could bog down in the undercurrent and not separate the issues enough to be able to see the organization as a whole and locate the areas and processes that will have the greatest impact on the organization through training... the support of key persons, through their power, authority and acceptance, and a good solid program that employees understand and support, will help expedite matters towards application."

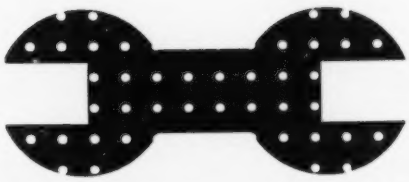
THE TRAINING PLAN

The training plan developed by the Site Coordinator, based upon observation and interviews, consisted of four options for the Steering Committee to consider. The Steering Committee could choose one or all of the training options. While presenting a training plan was central to the *Workplace Basics* blueprint, this tactic of presenting options was conceived by the Site Coordinator and was independent of the ASTD *Workplace Basics* materials. It proved to be a successful strategy for implementing change.

The first option focused on communication development including a variety of corrective-action measures. Several of these (moving storage racks, product awareness articles in the newsletter, etc.) are not considered training, but they served as necessary first steps. Better communication and follow-through would facilitate

training and demonstrate that change was indeed possible. The first option also included the development of a Materials Requirements Planning (MRP) course to address the broader context of blade manufacturing.

The second training option provided for developing training manuals. Manuals would be designed to clarify, streamline and standardize job qualification and to determine the specific skill and knowledge needs for each blade manufacturing process. A train-the-trainer manual and curriculum would also be developed to support the manuals.



Establishing the joint Labor/ Management Advisory Committees to pursue the training options was significant. Employee involvement was not now, nor had it been, a common practice at ASR. The Site Coordinator worked constantly to establish employee trust.

The third option proposed developing control and conversion charts to enhance operator involvement in the blade manufacturing problem-solving and decision-making processes. Proceeding with this option would both require and develop Workplace Basic skills.

The final option provided for establishing a Workplace Education Program. In Workplace Education, an instructor would be made available to assist workers who wanted to improve their reading, writing or math skills and work toward the GED. While the qualifying manuals would move from the job to the skill, this option would move from the skill to the job. It would incorporate a "functional context approach" in reverse, in that the individual would voluntarily choose to participate and would identify the topics to be studied. Individual employees would focus on skills of their choice, and place these skills into a context of their choosing. In fact, curriculum developed for individuals participating in Workplace Education was tested and incorporated into the qualifying manuals, as several Workplace Education participants selected ASR workplace topics as their area of study.

The Steering Committee accepted the training plan as submitted. Permission was granted to begin work on all four options, beginning with communication, job qualifying manuals and workplace education. Recruitment of advisory committee members began.

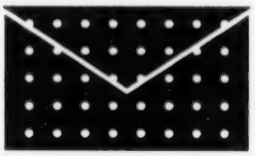
Establishing the joint Labor/Management Advisory Committees to pursue the training options was significant. Employee involvement was not now, nor had it been, a common practice at ASR. The Site Coordinator worked constantly to establish employee trust.

The weekly Industrial Relations newsletter, "Shavings," announced upcoming Workplace Basics informational meetings. Meetings were scheduled with all shifts to introduce the Advisory Team concept and give employees the opportunity to work on the approved training options.

Thirty-eight employees participated initially, representing a reasonable distribution across positions and shifts. The participants were mostly younger

employees who had not been with the company long. After a few weeks, participation declined somewhat and stabilized at 18-20 employees from all three shifts. Some said that contract negotiations were a reason for declining participation. Other sources suggested that the reading skills of some employees were such that they could not comfortably read and comprehend the training options.

Team members still active in the project turned their attention to developing training manuals. Not, however, without some difficulty. Those who remained on the Advisory Teams did so in the face of tremendous peer pressure. When asked, "What have you personally gotten out of this process?" one Advisory Team member answered, "a lot of flak." Maintaining the *Workplace Basics* effort against such resistance succeeded because of management support, the Site Coordinator's persistence and visibility, and the commitment and determination of the employees on the Advisory Teams.



The weekly Industrial Relations newsletter, "Shavings," announced upcoming Workplace Basic informational meetings. Meetings were scheduled with all shifts to introduce the Advisory Team concept and give employees the opportunity to work on the approved training options.

Supervisors' participation was not as strong as desired. Supervisors said that they were too busy and couldn't find the time for *Workplace Basics*, even after meeting times were rearranged to accommodate their schedules. In contrast, management, particularly those on the Steering Committee, began to actively support the project.

Advisory Teams continued to work on the development of the training manuals. Team members recorded typical questions a trainer might ask of a trainee, staying within informal union guidelines of not describing actual machine operations.

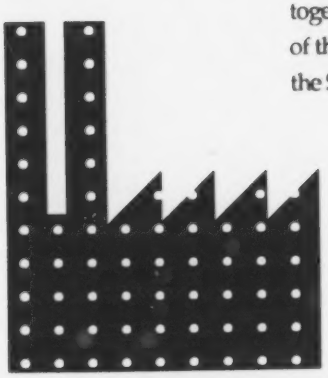
The Site Coordinator began working with two curriculum developers, one from ETC and another hired specifically to develop the Materials Requirement Planning (MRP) course curriculum. The ETC staff person developed reading, writing and math curricula directly related to work at ASR. Each curriculum developer worked with various ASR personnel, labor and management, gathering information and testing each curriculum. The Site Coordinator coordinated the work of the curriculum developers. The resulting curriculum materials proved sound and useful, and reflected the work context of ASR.

As the ASR training manuals were nearing completion and being reviewed by the Steering Committee, the Site Coordinator extended an open invitation to all Advisory Team members to attend Steering Committee meetings.

This mingling of hourly and management employees around a common project was unusual at ASR. And it was yielding positive results, particularly within the Steering Committee. As the training manuals came together, so did the Steering Committee. Each member began to see the value of the materials and the purpose of the project.

The formation of the Steering Committee created a viable forum for action and

change. Skeptical at first, its members eventually came to see the benefits of working together. Astonishing speed marked the progress of the project after the presentation of the completed manuals and MRP curriculum. Having a tangible product unified the Steering Committee and propelled the project forward.



Chief among the significant outcomes of this project is the new structure for communication and decision-making. The Joint Union/Management Steering Committee brought together key players within the organization. This committee, working in support of a common project, benefits the company and its goal of quality.

PROJECT OUTCOMES AT ASR

Chief among the significant outcomes of this project is the new structure for communication and decision-making. The Joint Union/Management Steering Committee brought together key players within the organization. This committee, working in support of a common project, benefits the company and its goal of quality.

The Steering Committee structure is complemented by the Joint Labor/Management Advisory Teams, whose involvement was central to success. The Advisory Teams are directly responsible for producing the four qualifying manuals and several of the communications' "corrective action" efforts within the factory.

As of December 1, 1991, the training materials (the four process qualifying manuals, train-the-trainer, and the MRP training) are entering the pilot-testing phase. Workplace education continues with a steady enrollment of 8 to 10 participants.

This year's efforts were a first step in strengthening the facility by providing a systematic approach to training within the context of the job. Collaborative labor/management efforts can continue within this framework. As a result of the development of the training manuals, the qualifying process, MRP training and Workplace Education, ASR is primed to proceed to the next level of development. Control charts and conversions can be discussed, developed and implemented. Additional Workplace Basics skill needs can be examined within the context of work at ASR and expanded to areas other than blade manufacturing. Other organizational needs can be highlighted for discussion and potential solution.

ASR AND THE WORKPLACE BASICS MATERIALS

The *Workplace Basics* blueprint was, for the most part, implemented as designed. A problem was identified. A company-wide representative committee was established. Jobs were analyzed. A population was targeted. Cooperation and support were built daily. A plan was submitted and approved. Employee Advisory Teams were established and curriculum was developed.

Only one step could not be achieved: documentation of employee deficiencies. Past experience found this approach unsuccessful. In the ASR environment, there was no mechanism, sanction or desire to document employee deficiencies. Instead, ideal performance was identified and described. Those descriptions

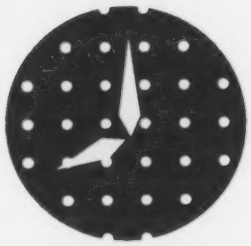
served as the basis for the manuals to follow. Employee deficiencies were not directly addressed.

The *Workplace Basics* blueprint served as a sound framework upon which to build a functional context employee training program at ASR. While it did not provide guidance on how to analyze skills, and while its singular focus on employee deficiencies was not appropriate, the systematic method fit with ASR. While other resources were required to augment *Workplace Basics*, the blueprint stood up well in this traditional manufacturing environment.

The *Workplace Basics* skills were not, however, essential to this effort at this time. The focus was clarification of job expectations and the development of a consistent job training system. Within this, basic skill needs in reading, writing, and especially math, were identified and incorporated into the training system.

The work design and work environment do not currently recognize nor reinforce the broader *Workplace Basic* skills identified by ASTD. Many of these skills are needed and would be useful. But they are not pertinent at this time. With the continuation of *Workplace Basics* and other organizational changes, these skills will become increasingly important at ASR.

Workplace Basic Skills Findings and Discussion



Workplace Basics focuses on increasing employees' performance by improving their skills through training. ASTD's Workplace Basics vastly broadens the concept of basic skills in the workplace. Through it, skills once thought exclusive to management and executive employees are now brought to employees throughout all levels of an organization.

OVERVIEW

Workplace Basics focuses on enhancing employee performance by training an array of essential basic skills that employers identified in a national study conducted by ASTD and funded by the Department of Labor. *Workplace Basics* focuses on the non-management employee. This study, conducted by Education & Training Corporation (ETC) and also funded by the Department of Labor, sought to test *Workplace Basics* as written and to elaborate on its feasibility, utility and replicability. The previous Corning and ASR descriptions give a sense of how implementation proceeded throughout the project year. These descriptions provide a context for this discussion of findings.

ASTD's *Workplace Basics* vastly broadens the concept of basic skills in the workplace. Through it, skills once thought exclusive to management and executive employees are now brought to employees at all levels of an organization. Individual skills are important. But skills are just one of many factors that influence performance. Blumberg and Pringle (1982) propose an interactive model for examining work performance based on the three dimensions of capacity, willingness and opportunity to perform.

"Capacity refers to the physiological and cognitive capabilities that enable an individual to perform a task effectively" (p. 563). Capacity includes ability, age, health, knowledge, skills, intelligence, level of education, endurance, stamina, energy level and motor skills.

Willingness to perform refers to "the psychological and emotional characteristics that influence the degree to which an individual is inclined to perform a task"(p. 563). Willingness is influenced by motivation, job satisfaction, job status, anxiety, legitimacy of participation, attitude, perceived task characteristics, job involvement, ego involvement, self-image, personality, norms, values, perceived role expectations, and feelings of equity.

Finally, opportunity to perform "consists of the particular configuration of the field of forces surrounding a person and his or her task that enables or constrains that person and his or her task performance and that are beyond the person's direct control" (p. 565). The variables within opportunity include tools, equipment, materials and supplies, working conditions, actions of co-workers, leader behavior, mentorism, organizational policies, rules and procedures, work environment, information, budgetary support, time and pay.

SKILLS

Workplace Basics and Traditional Literacy Skills

Workplace Basics presents a broader set of skills than the basic ones of reading, writing, and mathematics. Previous definitions limit Workplace Basic skills to reading, writing, and math. (Imel, 1989; Lee, 1989). Others have added to the "three R's" listening and speaking (Hall and Sechler, 1987); and speaking, listening, scientific and reasoning skills (Henry & Raymond, 1983).

We identified essential skills in these two worksites as reading, writing, math, communication and problem-solving. Neither site acknowledged a need for reading, writing, or math development, yet further examination revealed the need was there. The need for communication and problem-solving was acknowledged but was not understood by employees. It was not clear how problem-solving and communication skills were used in the workplace or how they might be improved. Much of each Site Coordinator's effort in implementing *Workplace Basics* was directed at understanding and articulating the role that skills played in improving performance.

In order to address the "three R's," employees and employers alike had to acknowledge "deficiency". In both sites, management and many non-management personnel did not see a strong need for reading, writing or math improvement. Had the study been limited to just reading, writing and math, the door for development would have closed. But because *Workplace Basics* presented a broader definition of basic skills, investigation and examination were allowed to continue.

In fact, the broader definition of basic skills, particularly communication and problem-solving, was more readily accepted as responding to valid organizational needs. In one worksite, communication and problem solving became the focus of the program. In the other, jobs were the focus. Reading, writing and math skills were defined within the job, not because anyone acknowledged a need for these skills but because it made sense to do so.

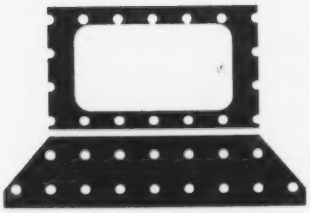
Although reading, writing and math are tangible, testable skills, assessing individual capacity in those skills on the job with current employees was difficult. Job proficiency and other learned strategies for getting the job done obscured basic competency deficiencies. When employees performed non-job-related tasks requiring specific skills, however, their deficiencies were apparent. This was not discovered until later in the project because *Workplace Basics* focuses exclusively on skill analysis and assessment within the job. We could not discover reading, writing and math skill needs by looking at current job performance.

Social Skills: communication, interpersonal skills, negotiation, motivation, goal-setting, leadership

Both worksites acknowledged the need for better communication. However, they did not know what that meant in terms of performance. Individuals could not specifically define communication within their work environment. Figuring this out

took a great deal of time. Communication became one of the subskills listed in the newly formed category of social skills.

At ASR, communication was seen primarily as creating opportunities for employees to get and give information. Few structures existed in ASR to communicate formally with supervisors and coworkers on a regular and consistent basis. To remedy this, production meetings were proposed. Once production meetings are underway, the need for communication skills, (listening, speaking, providing feedback) will be recognized as relevant. Until then, formal pursuit of social skill development is not appropriate.



The basic skills in these implementation sites proved to be reading, writing, math, communication and problem-solving. Decision-making was added as a separate skill within the reasoning skill group. Organizational effectiveness, teamwork, employability and career development were not pursued. The most basic skills at both sites were problem-solving and communication.

At Corning, communication was seen as a key component of work. Corning's environment demands effective communication among all employees because of its self-management structure. The Advisory, Job Review and Workflow Teams took time to articulate what kinds of communication were expected and what kind of results were desired. With this information, curricula were designed to enhance personal communication within the facility.

At Corning, leadership was also included in social skills. In the context of a self-management work environment, leadership opportunities arise while solving problems on the job.

Reasoning Skills: creative thinking, problem-solving, decision-making

Interestingly, ASTD's *Workplace Basics* does not list decision-making as a separate skill. In this application of *Workplace Basics*, it was important to distinguish problem-solving from decision-making. Decision-making was seen as the step beyond problem-solving, requiring broader understanding of oneself and one's role in the organization. *Workplace Basics* does include some discussion of these elements in its section on organizational effectiveness, a set of skills not pursued in this study.

Problem-solving was an essential skill at both sites. Each project, because of its required employee involvement, presented opportunities for problem-solving. Problem-solving and communication skills were essential for those working on Advisory, Workflow and Job Review teams. Participation on Workplace Basic teams not only required but developed communication, problem-solving and decision-making skills.

Other Workplace Basics Skills

The ASTD skills of self-esteem, employability and career development evolved into ends rather than means. People spoke about gaining self-esteem as a result of training. The need for enhanced self-esteem was acknowledged in Corning and

included in the training plan, but specific training was not conducted. Employability skills were not directly addressed within this project year.

The degree of concern over career development depended on work environment. At ASR, career development was an end goal of the development of qualifying manuals. At Corning, career development was seen as an ongoing responsibility of the organization and each individual. But career development was not addressed within this project, nor acknowledged as a separate skill.

Learning how to learn was difficult to sort out. It was not taught as content, but was incorporated into the *Workplace Basics* process of Steering, Advisory, Workflow and Job Review teams. The train-the-trainer curriculum, developed to accompany the ASR job qualification training manual, presented information on how to organize a training experience. Formal self-examination as an individual learner did not explicitly occur.

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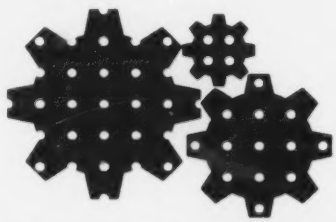


Work design, work environment and management practices determine the scope of a Workplace Basics program, i.e. what skills will be needed, developed, used and reinforced, reflecting the underlying philosophy of work in that setting.

Workplace Basics, Work Design, Work Environment and Management Practices

Work design, work environment, and management practices determine the scope of a Workplace Basics program, i.e. what skills will be needed, developed, used and reinforced. At Corning, the organizational directive is continuous improvement, self-management and personal responsibility. Therefore, a broader range of the ASTD *Workplace Basic* skills was acknowledged and endorsed. Non-management employees defined the focus of *Workplace Basics;* management's role was to support employees by providing the time and resources.

At Corning, work design remains simple. But job rotation, job enlargement and job enrichment strategies, coupled with a system for continuous improvement, encourage the use of communication, problem-solving and decision-making skills. In this environment the employee development system established during this project encourages continuous examination of current and future needs and provides the opportunity to adjust training strategies as needed. This is an advantage of the systematic approach to training advocated by ASTD. As previously discussed, however, the individual deficiency orientation of the ASTD material was hard to reconcile with the group orientation of this Corning facility.

At ASR, a hierarchical supervisory structure supported a traditional

factory directive of mass production. In this environment the broader basic skills (beyond reading, writing and math) were acknowledged as needed, but were not effectively used, immediately recognized, or reinforced. Change is underway and an increasing need for these skills is anticipated.

Employee involvement is not yet a common practice at ASR. The design of work remains largely "Tayloristic," with complex work broken down into a series of simpler tasks. Teamwork is not a current feature. Within the project, ultimate decision-making rested with the Union/Management Steering Committee. Currently, the opportunity to deploy the full range of Workplace Basic skills remains limited.

It appears that enhancing skills in an environment where the newly developed skills cannot be used is likely to be counterproductive. The commercially developed training program used at ASR is a good example. Through the commercially developed program, knowledge was acquired and skills were developed. But the environment did not reinforce the use of those skills. Key people and practices did not change. The use of new skills was not uniformly recognized nor reinforced, so the development of skills was ineffective.

Within this study, those who participated on the Advisory Team developed and used skills in communication, problem-solving, and decision-making. The Steering Committee and Advisory Team structure serves as a mechanism for examining and developing the broader basic skills. Maintained and reinforced, the system of union/management committees creates a forum for the continued use of such skills, with the potential to both inform and possibly transform management practices. Continuation of these efforts, planned by management and supported by the union, will create the opportunity to use the broader skills. *Workplace Basics* will provide a valid mechanism for both developing and using skills.

INFORMATION NEEDS OF A WORKPLACE BASICS PROGRAM

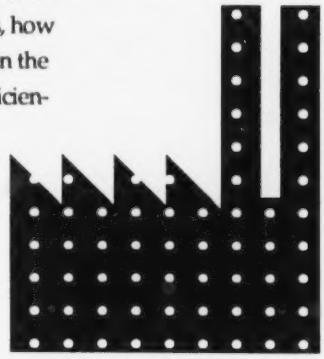
Job Information

For a project like this to succeed, clear, consistent job information must be available. Specific job information exists at ASR, including job descriptions with knowledge, responsibility, conditions and skill levels with standards for determining labor grades. But equivalent job information was not available at Corning. It was necessary to create it before training could move forward. The ASTD materials suggested that job information serve as a foundation, but not a prerequisite. Having current, accurate job information was essential in this study.

Job Training

In addition to job descriptions, a need exists for standard job training materials, reference materials and up-to-date policies and procedures. Lacking these materials,

workers rely on past practices and common sense to guide their efforts. Using skills within a job requires clear statement and understanding of what the job entails, how it is to be accomplished and what its relationship is to the larger organization. In the absence of this information, poor performance could result from basic skill deficiencies or inadequate understanding of job expectations.



Job training is also required. A sufficient job training system was not available at the outset of this project in either site. Development of job training materials was incorporated into the process since adequate job training was necessary for *Workplace Basics* to proceed.

At Corning, standard job training materials were developed. These materials were separate from the *Workplace Basics* skill training materials on communication and problem-solving. At ASR, job training and basic workplace skill training were integrated. Reading, writing, and math especially are part of the job qualifying manuals.

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Workflow Information

Understanding a job's requirements and how to properly accomplish it is only part of the picture. Workers must also understand how their jobs fit into the larger picture of the work organization. At both Sites, implementation involved examining individual employees and individual skill needs within the larger context of the organization.

To make this relationship clear, businesses must:

1. Define desired worksite outcome(s) or expectation(s), e.g., ship x boxes per day.
2. Identify and explain systems designed to achieve outcome(s), e.g., computer tracking, order placement, etc.
3. Clarify procedures designed to achieve outcome(s), e.g., packing, shipping procedures, etc.
4. Identify role of management in process of achieving outcome(s), e.g., supervisory responsibilities/obligations.
5. Outline role of employee in process of achieving outcome(s), e.g., functions/responsibilities.
6. Outline necessary skills, e.g., job-specific skills, workplace basic skills.

At Corning the larger picture was termed "workflow" and became a central activity of the *Workplace Basics* project. Problem-solving had been identified as a skill that needed development, but effective problem-solving required understanding how solving a problem in one area might create a problem in another area.

Jobs and functions are not isolated but are interconnected. At Corning, it was not possible to proceed with developing contextually-based reasoning skills without providing workflow information. Creative thinking and problem-solving in this workplace depend on access to other organizational information.

At ASR, workflow was embedded in the MRP (Materials Requirements Planning) training. The MRP system is central to blade manufacturing, as it is to purchasing, planning and controlling. Operators come in contact with the MRP system daily. Their actions directly affect the larger system, but most operators are largely unaware of this relationship. Performance depends on whether operators have access to, and understanding of, their relationship to the MRP system. Determining a skill deficiency was not possible until the information was made available in a meaningful form to the operator.

Workplace Basics is a systematic approach to employee development within the context of work. The process of developing and implementing a Workplace Basics program takes time and requires significant employee involvement. Businesses must recognize this commitment. Examining jobs and conducting task analysis take time. Non-training approaches (examining and diagramming workflow, rearranging facilities, and providing information) take time. Forming teams and maintaining productive relationships take time.

The ASTD material does not directly discuss the need for job information, job training, or workflow information as a basis for the building of a *Workplace Basics* program. The materials assume these organizational elements are already in place. The lack of this information and up-to-date policies and procedures may be a condition of business size. At Corning, the newness of the facility and its constant state of change were also factors.

TIME AND EMPLOYEE INVOLVEMENT

Workplace Basics is a systematic approach to employee development within the context of work. The process of developing and implementing a *Workplace Basics* program takes time and requires significant employee involvement. Businesses must recognize this commitment. Examining jobs and conducting task analysis take time. Non-training approaches (examining and diagraming workflow, rearranging facilities, and providing information) take time. Forming teams and maintaining productive relationships take time.

At Corning, this approach to training was expected to take more time than traditional training approaches, but not as much time as it actually took. Concern was raised about how much time was "enough". Investigation and support systems development took nearly seven months. Program development and pilot-test delivery took three months. Follow-up and entire-facility training is ongoing and is expected to take an additional four months. In the end, the amount of time taken seemed appropriate for the outcomes generated. This was not clear during the process, however.

At ASR, the quantity and quality of work produced during the project has

far exceeded expectations. So the results are highly prized, and the time taken has not seemed excessive. Investigation and support systems development took five months; program development and pilot-testing took five months. Follow-up and additional operator training is expected to take six months.

Employee availability was a problem at both sites. In business, getting the job done is the first priority. While management endorsed the *Workplace Basics* project, time is a finite commodity. When choices had to be made, production took precedence over development. Management at both sites acknowledges that the commitment of more individual employee time to *Workplace Basics* would have yielded quicker results.

Corning and ASR have made the necessary time and fiscal commitment to continue with *Workplace Basics* beyond the project year. An internal person will work with the Site Coordinator to learn the strategies necessary to maintain the training system. However, both Facility Managers indicate that they would not have committed the necessary time or money for start-up of *Workplace Basics* without external funding and expertise.

Workplace Basics, as undertaken in this project, may be too time- and cost-intensive for most smaller businesses to consider. The budgetary framework of a smaller business provides too many competing demands for skills development to emerge as a priority.

THE NEED FOR SKILLED, KNOWLEDGEABLE LEADERSHIP

Knowledge and understanding of the complex relationship of skills to performance appears to be a technical specialty. *Workplace Basics* projects require skilled leadership and dedicated, trained professionals. This specialized expertise, like that of a medical doctor, is a lens through which organizational needs are examined and solutions are generated.

In this study, the Site Coordinators brought both knowledge and understanding of skills and their influence on performance. The Coordinators analyzed (or assisted others in analyzing) work into its component parts and processes. In one environment the Coordinator taught employees the role that skills play in their work. In the other environment, skills remain part of getting the job done.

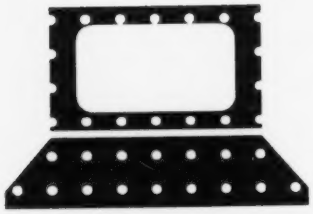
The Site Coordinators in this study were not part of the organizations in which they functioned. This was cited as a definite advantage by participants at both sites. External leadership was seen as neutral, more objective, more mobile, more able to see and respond creatively to long-standing issues.

Both Site Coordinators have professional training and education in industrial psychology and organizational behavior. In addition, both have experience working with groups. One suggested, however, that more expertise in group dynamics would have been helpful.

In both sites, the Coordinators led by example. They listened, learned, deferred judgment, and became a familiar feature at their worksites. Each Site

Coordinator communicated continually in various forms, struggled with when to lead and when to step aside, took risks, suggested possibilities, demonstrated new ways of accomplishing tasks, and gave people the opportunity to grow.

Each Site Coordinator, serving as an employee development specialist, had the capability and the authority to promote both training and non-training solutions for improving performance. Because there was no training department at either site, the Site Coordinators were empowered to pursue a variety of solutions to improve performance. The Site Coordinators created opportunities for bringing people together to improve performance.



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The ASTD *Workplace Basic* materials assume that internal expertise is available to investigate and determine skill problems and needs. This expertise was not, however, available in these test sites. This may be a condition of business size and limited resources. Whatever the reason, the absence of internal expertise is significant. If no one has the technical expertise to analyze and address the relationship of skills to performance, then potential solutions are limited. Berkeley Associates, in their recent case study of 18 Workplace Education programs [for the Small Business Administration (1991)] found little evidence that businesses were motivated to begin workplace education because of worker skill deficiencies. If other small businesses are like those identified in the Berkeley Associates study and in this study, it may well be that technical expertise for understanding the relationship of skills to performance is not present. Thus, worker skill deficiency remains unaddressed and does not serve as motivation for workplace education programs.

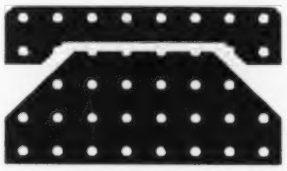
THE LANGUAGE OF WORK AND THE RELATIONSHIP TO SKILLS

The implementation of *Workplace Basics* created a system for improving performance through employee development. In both worksites, problems were identified and pursued that had more than one source and more than one solution.

When describing worksite problems, employees talked about tasks that could not be completed, outcomes that could not be met or goals that had yet to be achieved. Employees and employers alike did not talk about their work in terms of skills. They talked about work in terms of tasks and outcomes. In most cases, the relationship of skills to performance remained abstract and implicit rather than concrete and explicit.

In our two sites there was a need to first clarify what the job was and what it entailed. Thus, the reason for the task analysis. Within this examination came new insight into what the job tasks were and articulation of the underlying or enabling skills necessary to achieve those tasks. These underlying or enabling skills were the *Workplace Basic* skills.

It was not always practical to separate, in technical terms, the *Workplace Basics* skill from the job or organizational context. The distinction was often confusing and unclear to individuals. At Corning, for example, employees were not always able to distinguish the *Workplace Basics* skills from the job, nor were they interested in doing so. Making skills explicit, concrete and understandable is a long and difficult process for most. In these test sites, few were able to grasp the underlying relationship. The *Workplace Basics* Site Coordinator translated the organizational need into a skills framework and then built the necessary skills to meet the need. It was not necessary that all involved understand the relationship between need, skill, performance and results. However, as the process at Corning proved, the more people understood, the more valuable the training and the greater the transfer of skills to the job.



Basic workplace skills are a means to the end of completing tasks and achieving goals. If the relationship between basic workplace skills and results is not understood, then the need for skills goes unacknowledged. Training's low priority may be caused by this lack of understanding of the relationship between needs, performance, skill and results. It is difficult to make the connections explicit.

Yet even after the training, Corning employees talked about what they do better, not about the skills they developed. This does not mean that they didn't acquire a general skill, like improved listening. They did and could describe how their own behavior and the behavior of others had changed. Learners could also describe other settings where they had used these skills, but they could not talk about the skills without using concrete examples, largely from work. Skills appear to take on meaning and utility only within a context. The need for skills goes unrecognized until a concrete example is made of a worksite specific situation, accompanied by an explanation of how a *Workplace Basics* skill might influence that situation. In these two sites, clarification of this relationship took months and is ongoing.

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Training's low priority may be caused by this lack of understanding of the relationship between needs, performance, skill and results. It is difficult to make the connections explicit. Attempting to provide evidence of how training influences an organization depends on accurately assessing and making these connections.

Unfortunately, the relationship between performance and skills is not clearly understood by many in the workplace. Until more people can acknowledge the complexities and attempt to understand the relationships, employees may not receive the development needed to become stronger resources for their organizations.

Interestingly, reading, writing and math are understood as skills, but people do not readily acknowledge themselves as deficient in these skills. The remedial nature of their content, as presented, seems to inhibit willingness to acknowledge need, particularly if the context is job-related.

Recognition of reading, writing and math skill deficiencies in these

workplaces was not central to the *Workplace Basics* effort. Clear understanding of the role of these skills to performance was not evident. It appeared that acknowledging a need for these skills would betray a long-held image of organizational competence. To acknowledge a need for these skills would require a new "map" of the organization (Argyris & Schoen, 1978). A new way of understanding the organization and the people within it might result if a skills deficiency were acknowledged. There was not a willingness to do this in either site.

People need to be better educated about the link between skills and performance. Segmenting skills into basic skills, *Workplace Basic* skills, technical skills, vocational skills, and management skills is compartmentalizing a product that consumers do not yet understand. In this study each of the skill sets (basic competencies, social skills, reasoning skills) was acknowledged by the Site Coordinator in addressing employee development. The Site Coordinators, serving as employee development specialists, responded to organizational needs through both training and non-training solutions. In these smaller enterprises, no other expertise or resource existed to identify or respond to these needs.

TRAINING: A DEFICIENCY APPROACH OR A DEVELOPMENTAL APPROACH

Although written as a deficiency model, strictly directed at the improvement of individual employees, *Workplace Basics* can also be developmental. Each Site Coordinator looked to identify the performance ideal and work toward that ideal, rather than singling out individual deficiencies and attempting to fix them. It was a constructive rather than a reactive approach to employee development. In this approach, the range of possible solutions included both training and non-training solutions. The Site Coordinator worked with worksite personnel to develop and promote these solutions.

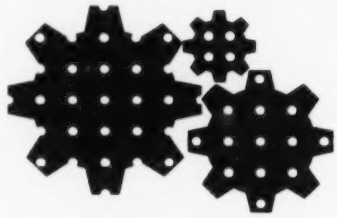
In pursuit of improved performance, training becomes a tangible outcome of a broader employee development effort. Training is not the only option that will improve performance. Rather, it is a mechanism for making tangible all of the changes that contribute to improving performance. Employees do not see, nor do they readily understand, changes in communication systems, record-keeping procedures or routing patterns as having any relationship to them and their jobs.

Training is seen as something that is directed at and for the benefit of the employee, if properly introduced. *Workplace Basics*, implemented as an employee development system with significant employee involvement, produced training that employees saw as a benefit. The advantage of training solutions in these settings was that training was a tangible product that management and employees alike could use and respond to as something for employees.

Providing training did not necessarily link skill enhancement to results. This relationship of training's contribution to results is no clearer or cleaner for non-management employees than it has been for management employees. While efforts to try and make the link are worthy, we must also recognize that

one of the advantages of training is its tangibility. Training is a real, understood experience and product that indicates action.

Within the employee development approach to *Workplace Basics*, a language problem exists. Employers and employees have preconceptions of what training is and what it will be like. If training is the stated objective, as opposed to the establishment of an employee development system, there is also a tacit expectation of how long training development should take. This was a problem, because implementing *Workplace Basics* involved significantly more than just training. It took time to get to the training because non-training solutions were also explored and established.



Skills must be maintained and reinforced. Training alone cannot do that. A more systematic, comprehensive approach, understood and acknowledged by all employees, helps promote continued skill use and maintenance.

At Corning, through examining the organization for performance improvement needs, the understanding of training was changed. Training is now seen as both skill development and skill maintenance. The notion of maintaining skills was not available through previous training. Within an employee development system, maintenance of the system, and maintenance of the skills, is acknowledged. This is a central theme of the on-going efforts at both sites. Skills must be maintained and reinforced. Training alone cannot do that. A more systematic, comprehensive approach, understood and acknowledged by all employees, helps promote continued skill use and maintenance.

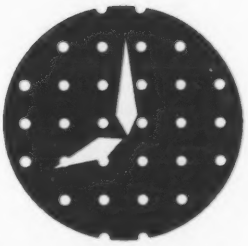
Training Delivery

Developing and delivering training must fit the environment and the learners. Non-management employees who received training were active in their work. Sitting in meetings and working at desks is not regular activity for them. So, sitting in training for several hours did not fit with their experience or with the pace of the environment. In response, training sessions in both sites were designed in one- to two-hour blocks delivered over a series of weeks.

This design allowed participants an introduction to the material, after which they could return to work, apply what was learned and return the next week. This allowed workers to make their own connections between the training and work. Each training session was designed with questions and experiences to encourage employees to test their understanding within the context of work. Returning to training allowed further understanding through interaction with peers and the instructor. Shorter training sessions fit with the pace of work. Unused to sitting for long periods of time, participants were not required to do something they were not accustomed to.

Offering training in weekly one-hour segments for several weeks allowed participants time to reflect and to practice within their work environment. Workers found this design preferable to all other training. Adult learning principles made training sessions lively, spirited, and enjoyable.

The job-related curriculum seemed to reinforce transfer of the skills to the workplace. This was evident by peer and management comments regarding changed behavior on the job. A survey was conducted at each site near the conclusion of the project. Appendix C summarizes the results, but available measurements were not precise enough to show changes in individual performance.



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ASSESSMENT

Intellectual capital is essentially the contribution that people make to an organization, to its goals and output, and ultimately to its potential replacement costs. Stewart (1991) defines intellectual capital as "the sum of everything everybody in your company knows that gives you a competitive advantage in the marketplace" (p.44). Defining intellectual capital requires an understanding of the component parts of a worker's contribution to an organization, including the necessary and available knowledge, skills and attitudes. Measuring this contribution requires understanding of its parts. In these organizations, we found that employees and management did not fully understand the relationship of skills to performance, and did not have measures that would reflect improved performance as a result of skill development.

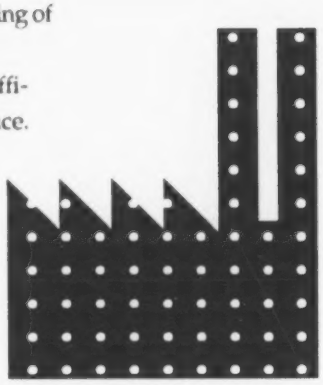
As a result, what was developed through the use of the *Workplace Basics* blueprint was an employee development system. The Site Coordinators became employee development specialists, charged with identifying, developing and implementing both training and non-training solutions. In our test sites, additional resources or expertise were not available to pursue non-training solutions for employee development outside the *Workplace Basics* project. Yet employee development depended on the implementation of these non-training solutions. The Site Coordinator served in the broader role of employee development specialist, using the Advisory Teams as resources to pursue change. This placed training squarely within the context of the organization, rather than as a peripheral activity.

The deployment of skills depends upon the goals and objectives of the organization. It seems that understanding what an employee contributes to organizational health requires the ability to first identify a need, articulating how performance relates to that need, then to identify the skills necessary to achieve the desired performance and, finally, to measure results. This chain helps to define employee contributions and ultimately, intellectual capital. These are the steps described in *Workplace Basics*.

In our sites, there remains a lack of clear understanding of how organizational needs are related to skills, skills to performance, and performance to results. This lack of understanding may suggest why it is so difficult to get support for the evaluation

of training (Gordon, 1991). There was neither clear recognition nor understanding of how employee development related to measurable organizational results.

Measuring the relationships between skills and job performance is difficult, as the worksites did not have sufficiently precise measurements in place. Early in the *Workplace Basics* effort, each Site Coordinator pursued the development of more precise measures. But the effort needed to create these measures was not endorsed. Doubt existed about the value of developing measures specifically for *Workplace Basics*.



As the project proceeded the need for evidence was no longer pressing. Decision-makers were seeing results, behavior changes, training products, etc. More sensitive organizational measures were no longer necessary. When they were necessary, early in the project when things were less tangible, the time, money and thought necessary to create the measures were not forthcoming.

Training in communication, problem-solving, decision-making and creative thinking skills have been the staple of management development training in this country for nearly 40 years. Yet evidence of their influence on performance has been weak (Foucar-Szocki, 1989). This inability to provide evidence of training's relationship to results remained a problem with non-management employees in this study.

Performance improvement, by its very name, suggests deficiency. But the deficiency does not always rest with the employee. Skills are but one of the variables that influence performance (Eccles, 1991, Blumberg and Pringle, 1982). Identification of performance deficiencies in individuals, particularly in terms of skills, was not endorsed, sanctioned nor desired in either of these settings. Instead, building a comprehensive employee development system that included non-training solutions was the end result of our efforts.

An employee development specialist, in businesses comparable to those in which we worked, needs to have the capabilities and the authority to address employee development from a variety of perspectives. Central to establishing an effective employee development system is increasing a decision-maker's understanding of an employee's contribution to organizational health. Additionally, a balance must be achieved between the investment in people and other organizational strategies to improve productivity and profitability.

Employee development does not necessarily mean employee deficiency. A focus on individual employee deficiencies is not necessary to embark on or establish an employee development system. An employee development specialist, in businesses comparable to those in which we worked, needs to have the capabilities and the authority to address employee development from a variety of perspectives. Central to establishing an effective employee development system is increasing a decision-maker's understanding of the worker's contribution to organizational health. Additionally, a balance must be achieved between the investment in people and other organizational strategies to improve productivity and profitability.

Conclusion and Recommendations

This study found that establishing a *Workplace Basics* program in small- to medium-sized businesses is a time-consuming and resource-intensive process. *Workplace Basics* projects take time and require significant employee involvement and commitment. Businesses must recognize this commitment.

The organizations in which the process was undertaken did not have sufficient materials to build a skills development program. Successful skills development required that job and workflow information, as well as policies and procedures, be developed before skills and their relationship to work could be examined.

Working from this foundation, *Workplace Basics* became a comprehensive employee development system that included training and non-training solutions. Site Coordinators became employee development specialists, charged with identifying, designing and developing strategies for achieving peak performance.

Rather than working from performance deficiencies, as suggested in the ASTD *Workplace Basics* materials, these two sites identified ideal performance. In the future, comfort with examining of employee deficiencies may come as the employee development system takes hold. The lack of precise job information, job training, and workflow information prohibited focus on employee deficiencies because the performance ideal was unknown or unclear. The Site Coordinators' efforts were directed at articulating the performance ideal and gaining employee commitment to that ideal.

Skill understanding and the capacity to assess skills in a specific work setting requires technical expertise. The relationship of skills to work is complex. In these settings, too few people understood the relationship of skills to performance. The broadened skill set presented by ASTD requires an even larger reservoir of knowledge and ability. *Workplace Basics* projects require skilled leadership from trained professionals.

Reading, writing and math skill requirements can be assessed through task detailing. However, skill analysis for social and reasoning skills requires task detailing, contextual analysis and articulation of the relationships between individuals, jobs, positions, and organizational objectives. The relationship of task analysis to skill analysis, particularly in the broad reasoning skills, remains unclear and deserves further examination.

Learning how to learn is difficult to sort out and was not taught as content, but was incorporated into the *Workplace Basics* project. *Workplace Basics* skills are hard to talk about. They appear to take on meaning and utility only within a context.

Workplace Basic skills are a means to the end of completing tasks and achieving goals. If the relationship between basic workplace skills and results is not understood, then the need for skills will go unacknowledged.

There is a need to educate people about the link between skills and

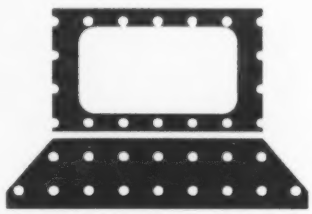
performance. Recognition of reading, writing and math skill deficiencies in the workplace is either misunderstood or ignored. Individuals are hesitant to acknowledge need in these skills. On an organizational level, it appears that acknowledging a need for these skills requires individuals to betray a long-held image of organizational competence. In this study, current job performance was not a discriminating vehicle for uncovering reading, writing and math skills needs or deficiencies.

Enhancing skills in an environment where the newly-developed skills cannot be used is counterproductive. Additionally, if nobody has the technical expertise to address the relationship of skills to performance, then the potential solutions are limited to the expertise available. Also, the budgetary constraints of a small business present too many competing demands for comprehensive skills development to emerge as a sole priority. Thus, small and medium-sized businesses may be at a disadvantage when pursuing performance improvement.

Performance improvement, by its very name, suggests deficiency. However, the deficiency does not always rest with the employee. Skills are but one variable that influence performance. Central to establishing an effective employee development system is increasing a decision-maker's understanding of employee contribution to organizational health. Increased recognition and understanding of the relationship may lead to increased commitment to employee development.

An advantage of building employee development systems for small businesses is the necessity of a problem-solving approach. Employee development systems are best pursued within the goals and objectives of the organization. Definition of the ideal, rather than the seeking out of deficiencies, appears to be the initial focus.

The ASTD *Workplace Basics Training Manual* provides a good model for creating an employee development system. A major drawback, however, is its exclusive focus on identifying employee deficiencies, which limits development options.



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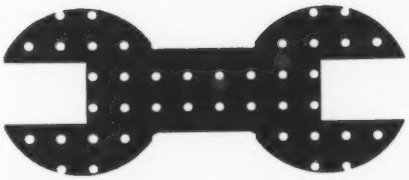
The blueprint worked as written at ASR, the larger, more traditional manufacturing organization. Significant modification was required for use at Corning, the smaller self-management, total-quality organization. The ASTD materials were developed and researched with the organizational directives of larger organizations, which helps explain their greater appropriateness to ASR.

The broadened set of skills presented by ASTD, and modified in this study, was an advantage for approaching employee development. The broader definition allowed for continued examination of employee development needs where they might have been abandoned had the definition of basic skills been

limited solely to reading, writing and math. However, the complete listing of 16 skills was too cumbersome and too complicated for employees to use or understand. The essential skills in these two settings proved to be reading, writing, math, communication and problem-solving.

Providing training did not necessarily link skill enhancement to organizational results. The relationship of training's contribution to results is no clearer or cleaner for non-management employees than it has been for management employees. While efforts to try to make the link between training and organizational results are worthy, it must also be acknowledged that one of the advantages of training is its tangibility. Training is a real, understood experience and product that indicates action.



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While *Workplace Basics* is an attempt to better articulate a certain set of skills for employee development, the definition, articulation and manifestation of those skills depends on the goals of the organization. Implementation in both sites focused on building a foundation for employee development. *Workplace Basics* will continue at both sites. At Corning, with the foundation in place, it is expected that individual skill assessment may be possible and valuable. At ASR, training will lead to greater understanding of the skill strengths and weaknesses in the workforce. Ideally, the system will respond with developmental options and organizational changes that will support growth at both ASR and Corning.

The ASTD materials proved worthwhile as a framework for understanding *Workplace Basics*. The blueprint presented in the *Workplace Basics Training Manual* is a viable plan for building employee development systems. The blueprint can be adapted to approach employee development from a developmental or a deficiency approach. A developmental approach at both sites yielded positive and valuable results. Chiefly represented in these results is the decision to continue these efforts beyond the project year. The ASTD's presentation of skills that employers want serves as a broad foundation upon which individual organizations may tailor their own employee development systems. But the relationship between skills and performance is complex and it appears that professional guidance maximizes the use of available resources in a specific organization.

RECOMMENDATIONS

1. Continue research in skill analysis, particularly for skills beyond reading, writing, and math. What exactly is skill analysis? What are the ways to

conduct skill analysis? How does skill analysis build on task analysis?

2. Continue research into small business employee development practices and needs, which are often different from those of large business.

3. Create materials to support employee development specifically for small business, perhaps by industry sector. Develop workshops and support services to aid understanding of the relationship between skills and performance and their influence on organizational health.

4. Develop consultant support and resource services through State and Federal level agencies to provide assistance to small and medium-sized businesses. A *Workplace Basics* effort requires significant resources. Such support would help small to medium-sized businesses invest in employee development systems.

5. Continue exploration and definition of learning practices, structures and environments for non-management employees. New approaches may be necessary for non-management employees whose work is more active and physical.

6. *Workplace Basics* and workplace education programs have the potential to transform organizations. Evaluate workplace education programs for their transformative ability (Sarmiento, 1991), not simply the teaching or not teaching of discrete skills.

7. Promote cooperation between labor and management to build the value and dignity of the human resource within the changing workplace. Change is necessary in our manufacturing sector. ASTD's *Workplace Basics* materials served as a good foundation in the labor/management environment. Additional articulation of how to work cooperatively toward mutually beneficial goals is needed.

8. Develop ties with education professionals who are trained to explain the relationship of skills to performance through the writing of objectives. Local school districts can provide a cost-effective resource for articulating the skill-to-performance relationships. These education professionals will likely need an introduction to and explanation of the business and its purposes.

9. Provide expertise to aid the implementation of employee development systems. Professional training should be provided for those likely to work with businesses and industries in this capacity, including business, education and government personnel.

10. Pursue policies and tax incentives which encourage the development of comprehensive employee development systems in small to medium-sized businesses, including training and non-training solutions.

Appendix A: Blueprint for Success*

STEP 1: IDENTIFY JOB CHANGES OR PROBLEMS RELATED TO BASIC WORKPLACE SKILLS

- Assess the extent of the need for training because of job changes or problems
- Form a company-wide representative advisory committee
- Perform a job analysis for selected jobs
- Document employee performance deficiencies on the selected jobs
- Identify population to be targeted for training
- Build cooperation with unions

STEP 2: BUILD SUPPORT FOR TRAINING THROUGH ALLIANCES WITH MANAGEMENT AND UNIONS

- Make the case for skills training in workplace basics
- Build support for skills training in workplace basics

STEP 3: PRESENT THE STRATEGY AND ACTION PLAN FOR APPROVAL

- Present the strategy and action plan for training
- Select a training program architect: in-house staff versus external providers

STEP 4: PERFORM A TASK ANALYSIS

- Perform a task analysis
- Determine whether to select a quick route through task analysis and determine which process is most appropriate
- Review the generic elements of the task analysis process

STEP 5: DESIGN THE CURRICULUM

- Design performance-based, functional context instructional program
- Design evaluation system
- Design documentation and record-keeping system
- Develop the program
- Obtain final budget approval to implement

STEP 6: DEVELOP THE PROGRAM

- Prepare the instructional format
- Select instructional techniques
- Select facilities site and designate equipment requirements
- Develop evaluation and monitoring instruments

STEP 7: IMPLEMENT THE PROGRAM

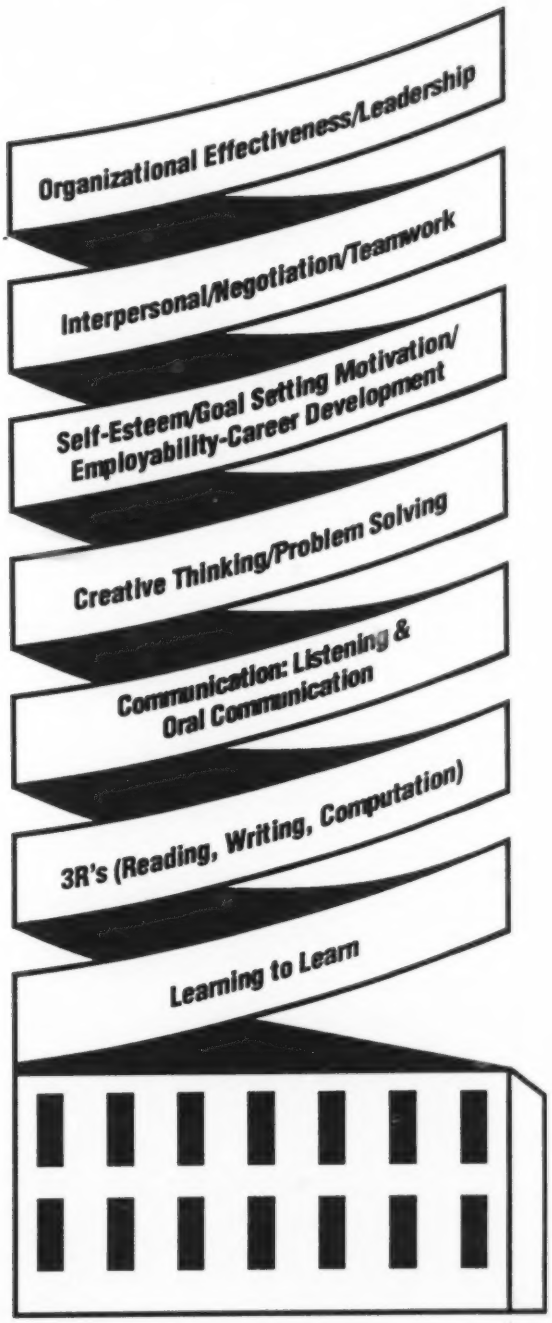
- Select and train the instructional staff
- Develop a learning contract: yes or no?
- Run pilot test (optional)

STEP 8: EVALUATE AND MONITOR THE PROGRAM

- Carry out initial evaluation
- Begin on-going program monitoring
- Advise and consult with management on program status

* From Carnevale, A.P., Gainer, L. J., & Meltzer, A.S. (1990). *Workplace basics training manual.* San Francisco: Jossey Bass.

Spiral of Seven Skill Groups*



* From Carnevale, A.P., Gainer, L. J., & Meltzer, A.S. (1990). *Workplace basics: The skills employers want.* San Francisco: Jossey Bass.

Appendix B: National and Local Economic Climate

To place current economic trends and characteristics into an appropriate historical perspective, we must review the major events of the past year.

Nineteen ninety-one began with America's attention riveted on the Persian Gulf crisis. The war in the Gulf was short and had only a small impact on the economy. The euphoria following the war was short-lived as a spurt in consumer confidence and spending quickly diminished. A continued gradual deterioration of economic conditions, which began in the second half of 1990, brought demands by the American public for President Bush to take care of the domestic "front".

A second major event of 1991 was the failed coup attempt in the Soviet Union. As the Soviet monolith was disassembled into its ethnic components, and as Eastern Europe stands free and autonomous from its giant neighbor, the Soviet threat to the West has been largely extinguished. Relationships between East and West are being formed, and the result is nothing less than a new world order. The U.S. response has been to announce massive military cutbacks, including weapons, troops and bases that could free as much as $50 billion from planned expenditures during the next five years.

A third issue is the credit crunch, an economic phenomenon with root causes outside to the economic system. In the 1980's, overzealous lending practices, poor banking policies and laws, and scandals in the savings and loan industry combined with economic conditions to create a climate not conducive to lending. This has made it especially hard for many small businesses and individuals to obtain loans.

THE NATIONAL ECONOMY

The United States economy entered a recession in the fourth quarter of 1990 as real GNP declined 2.0 percent. Declines of 2.8 percent and 0.1 percent followed in the first and second quarters of 1991. It now appears as if the recession has run its course, as real GNP expanded at a moderate 2.4 percent pace in the third quarter. Most economists believe the economy has entered a period of sluggish and uneven growth.

The unemployment rate, holding in the low 5 percent range from mid-1988 to mid-1990, began to move higher in July 1990 and peaked at 7 percent in July 1991. It currently stands at 6.8 percent. Employment conditions are not expected to improve soon as many companies continue to respond to a poor business climate and lower earnings reports by laying off workers, including many mid-level managers and technical employees. Even IBM, once known for its "no-layoffs" policy, is cutting 20,000 workers this year, and 20,000 more next

year. Total U.S. employment in October stands at 117.0 million, which represents a 0.7 percent decrease from a year ago, and is also down from September's total of 117.2 million.

A reason for optimism has been the inflation rate. After rising 5.4 percent in 1990, the CPI for the last 12-month period through October rose 2.9 percent, and edged up only 0.1 percent in October. The industrial materials price index has decreased 9.1 percent in the same period. These low inflation rates have helped the Federal Reserve put in place monetary policies which will stimulate the economy by lowering interest rates. The Federal funds rate is down to 4.89 percent verses 7.94 percent one year ago. Over the same period, the prime rate has dropped from 10 percent to 7.50 percent, and 30-year fixed rate mortgages averaged 8.76 percent at the end of November. Economic results from lower interest rates, however, are mixed as banks continue to follow tight credit policies and consumers hold back on spending. Most economists discourage the use of fiscal policy to stimulate the economy, since they forecast a $350 billion budget deficit for fiscal year 1992.

The current business climate is poor and forecasts for 1992 are for very slow economic growth. A number of economists fear that the U.S. economy is sliding back into a recession. Widespread layoffs continue. Because consumer spending accounts for over two-thirds of total economic activity, weakness in this area may prove the pessimists correct. Burdened with debt and concerned about layoffs, consumers are unlikely to significantly increase spending soon.

The U.S. trade deficit widened in September for the third straight month to $6.79 billion, the highest imbalance since January. The value of the U.S. dollar has been mixed verses foreign currencies in the last 12 months, increasing against the German Mark and French Franc, declining against the British Pound and Canadian Dollar, and unchanged verses the Japanese Yen. U.S. business sector productivity has been unimpressive, increasing 0.1 percent from the third quarter of 1990 to the third quarter of 1991.

THE VIRGINIA ECONOMY

Virginia's economy has largely reflected that of the nation, with Northern Virginia experiencing the most severe setbacks. The construction industry suffered most as a glut of office space and steep reductions in new home building diminished activity. More than 22,000 jobs were lost in the construction industry from August 1990 to August 1991. All other sectors experienced job losses except services, which gained 10,700 jobs. Payroll jobs statewide fell 1.6 percent from August to August. In September, Virginia's unemployment rate was 5.2 percent verses a U.S. rate of 6.7 percent. The state's unemployment rate in 1990 averaged 4.3 percent. Other statistics for January through September that underscore the effects of the recession include building permits, which declined 21.8 percent from last year, and new car sales, off 16.5 percent. Newspaper advertising has dropped 12.8 percent while total retail sales have fallen 3.1 percent.

Several areas of the state are heavily dependent on the defense industry. As cuts in the defense budget occur, these areas may be severely affected. Although reductions are anticipated, the ultimate impact of these cutbacks is unknown.

Virginia's economy shows growing deficits. Governor Wilder is approaching the shortfall by reducing state agency budgets and services. Most state agencies have been forced to cut services, with a total of 400 employees laid off in the process. Many more jobs are left unfilled as attrition further reduces the state payroll. Governor Wilder's aides have already announced that most state agencies will be asked to cut an additional 3 percent to 9 percent from their current budgets. Indications are that more layoffs will occur as the Governor attempts not to raise taxes.

Like the nation's, Virginia's outlook for sustaining economic recovery hinges on consumer spending. In September, the state experienced a strong 1.09 percent growth in total employment and decreased layoffs. However, national consumer confidence levels in November fell sharply and are now at their lowest levels in over 10 years.

THE LOCAL ECONOMY

The Staunton-Waynesboro-Augusta County labor force consists of approximately 47,000 workers. This population works in a diverse mix of business and industry. Manufacturing, the largest sector, employs about 30 percent of area workers. Local manufacturing industries include textile processing, food processing, electrical components, machinery and wood products. Trade and service establishments employ approximately 21 percent of the area's workforce.

The area has shown steady increases in population, employment, per capita earnings, retail sales, and construction over the past two decades. The diversity of the area's employment base, as well as the conservative business practices of local banks and government, have somewhat insulated the area economy from severe economic swings in either direction.

Nonetheless, the recent recession and current economic slowdown have had an impact. There have been layoffs at many area businesses, particularly in the manufacturing and construction industries. Brown and Root, a construction company in Waynesboro, laid off more than 200 employees during the spring and summer of 1991. Genicom, Inc., a major manufacturer in Waynesboro, has laid off large numbers of employees over the past year. Amp, Inc., a maker of electrical connectors, closed its plant in Weyers Cave. Many other local companies experienced layoffs including Lofton, Wayn-Tex, Hopeman Brothers, and DuPont. Also, despite strong local efforts to attract new and expanding businesses to the area, no new industrial prospects have located or announced plans to locate in the area so far this year. On the positive side, Hollister Inc., and McKee Foods Corporation, both in Stuarts Draft, hired employees and expanded operation this year.

Cutbacks in state spending have affected the area causing job losses at Western State Hospital, the Woodrow Wilson Rehabilitation Center, and the Dejarnette Center. Local positions with the Virginia Department of Transportation were also eliminated. However, the local September unemployment rate of 4.9 percent is below both state and national levels.

Local area colleges and universities have been affected by state budget concerns. The State council of Higher Education has predicted tuition cost increases of 20 percent at state schools for the 1992-1993 school year. At Blue Ridge Community College, President James Perkins anticipates similar increases. Blue Ridge has already experienced class cancellations and has been forced to turn away prospective students because of enrollment and budgetary limitations.

The Staunton-Waynesboro-Augusta County area will likely continue to reflect national economic trends. However, the stability of local companies and plants and the ability of local officials to attract new businesses to the area will greatly affect how well the area's economy performs in relation to the rest of the country.

Michael Yoquelet
December 1991

Appendix C:
Survey Results Overview

ASR/ETC SURVEY RESULTS

These are the results of the survey that was taken by the blade manufacturing personnel in late October regarding the ASR/ETC training project.

About the People Who Responded

- Eighty-eight people responded to the survey or approximately 59% of blade manufacturing.
- Those 88 people were from the following areas: 8.5% press, 12.2% hardening, 53.6% grinding, 2.4% leadmen, 11% quality, 12.2 % management and supervision.
- The ages of people responding were:
  - 18-35 ..... 52%
  - 36-50 ..... 38%
  - 51+ 10%
- People have been in their positions for :
  - 2 years or less 31.2%
  - 3-5 years 20.1%
  - 6-10 years 15.3%
  - 11-15 years 10.1%
  - 16+ years 15.3%
- 95% of the people responding were men and 5% were women.

Project Information and Purpose

- Ninety-six percent (96%) of the people taking the survey were aware of the ASR/ETC Workplace Basics project.
- The majority of people found out about the project from the Site Coordinator (47%), a supervisor (12%) or a co-worker (13%). Fourteen percent (14%) read about it in "Shavings." People stayed updated on the project through "Shavings" (38%), memos (45%) and the grapevine (47%).
- Respondents felt that the major purposes of the project were :
  - Develop a system to train new employees = 70%
  - Develop job specific training = 44%
  - Develop training to improve basic skills = 44%
  - Improve communication = 43%

Skills and Materials Needed

The most important skills to be developed were:

- Training for new employees and employees training other employees = 82%
- Problem-solving, decision-making and creative thinking = 82%
- Communication (speaking and listening) = 72%

- Interpersonal (positive interaction, teamwork) = 61%
    - Reading (memos, regulations, use & care diagrams, charts, shop packs, etc.) = 57%
    - Math (accuracy, counting, multiplying, etc.) = 42%

Items or materials respondents thought would benefit departments included:

- Departmental training = 62%
- Individual training = 59%
- Written outline for employees who train other employees = 48%
- Standard reference materials = 42%

Outcomes and Influence of ETC/Project

- Respondents thought the major outcomes of the project were:
    - Formation of Advisory Teams = 57%
    - Development of a press qualifying manual = 55%
    - Formation of the Steering Committee= 52%
    - Development of a grind qualifying manual = 52%
    - Development of a heat-treat qualifying manual = 50%
    - Movement of the racks = 48%
    - Product awareness articles in the "Shavings" = 48%

Two other outcomes of the project, Introduction of Productions meetings (25%) and MRP training (16%), likely received lower response rates because they had not yet been implemented.

- Seventy-three percent (73%) said the project had no influence on them. For some, the project gave them a better understanding of themselves as team members (9%) and made them better able to act on problems that they saw (9%).
- Thirty percent (30%) felt the project disrupted work patterns. However, 27% thought the project increased communication between management and workers and among coworkers. Twenty-two (22%) thought the project had already increased communication between supervisors and workers.
- If the project continues, respondents thought the future influence on ASR would be:
    - Improved performance by myself and my coworkers = 57%
    - Increased communication between supervisors and workers = 55%
    - Increased communication between workers and management = 49%
    - Increased communication between coworkers =36%
    - Increased efficiency =35%
    - Clear communication = 33%

Training Continuation

- Sixty-eight percent (68%) of those people taking the survey thought the training effort ought to continue in 1992.
- If the project is continued, 59% said they would be willing to help.

CORNING/ETC SURVEY RESULTS

These are the results of the survey taken by Corning personnel in late October regarding the Corning/ETC training project.

About the People Who Responded

- 54 people responded to the survey or approximately 68% of Corning personnel.
- The ages of people responding were:
  - 18-35 ..... 61%
  - 36-50 ..... 36%
  - 51+ 4%
- 95% of the people responding were women and 5% were men.

Project Information and Purpose

- One hundred percent (100%) of the people taking the survey were aware of the Corning/ETC Workplace Basics project.
- The majority of people found out about the project from the Quarterly Breakfast meeting (56%) or group meetings (26%) or a co-worker (13%). People stayed updated on the project through group meetings (93%), quarterly breakfast meetings (70%), memos (61%) and the facility newsletter (43%).
- Respondents felt that the major purposes of the project were:
  - Develop a job descriptions and summaries = 74%
  - Develop training to improve basic skills = 72%
  - Develop a system to train new employees = 70%

Group Meeting Observations

- Group meetings are held once a week (94%) or more than once a week (6%).
- Respondents identified group meetings as very worthwhile (32%), somewhat worthwhile (46%), okay (18%) and not very worthwhile (4%).
- Group meeting purposes are to give out information (100%), get information (92%), identify problems (76%) and solve problems (63%).
- Participation in group meetings varied from leading discussion (7%) to never participating in discussion (2%), with eleven percent (11%) of respondents always participating, 28% frequently participating, 33% occasionally participating and 11% rarely participating.
- Sixty-two percent (62%) of respondents indicated that group meetings have gotten better since the project has been underway. The remainder felt there had been no change.
- Twenty-percent (20%) of respondents indicated that their level of participation in group meetings had increased over the past six months.

Outcomes and Influence of ETC/Project

- Respondents thought the major outcomes of the project were:
  - Development of Workflow diagrams = 63%

- Personal Styles training (PVI™) = 43%
- Communication Training = 41%
- Reviving of Quality Improvement Team (QIT) Education Committee = 33%

- Individuals have been influenced by the project in the following ways:
  - Better relationship with spouse = 59%
  - Better understanding of self as a worker = 57%
  - Better understanding of communication skills = 52%
  - Better understanding of myself as a group member = 41%
- Respondents indicated that Corning-Waynesboro had already been influenced by the project in the following ways:
  - Increased communication between work groups = 54%
  - More efficient group meeting = 54%
  - More understanding of the "big picture" = 43%
  - More effective group meetings = 41%
  - Improved performance by myself = 39%
  - More materials to support doing the job-reference materials = 35%
  - More individual problem-solving = 35%
- Respondents indicated future influence on Corning-Waynesboro would be:
  - Clearer communication = 74%
  - Increased understanding of "big picture" = 70%
  - Increased communication between work groups = 67%
  - Clarified job expectations = 63%
  - Improved performance by coworkers = 57%
  - More individual problem-solving = 54%

Training Continuation

- Ninety-six percent (96%) of respondents thought the training effort ought to continue in 1992, with 86% willing to help with the continuation effort in the upcoming year.

Bibliography

Argyris, C. & Schon, D.A. (1978). *Organizational learning: A theory of action perspective.* Reading, MA: Addison, Wesley Publishing.

Berkeley Associates (1991). *Workplace education efforts in small business: Learning from the field.* Small Business Administration (SBA-4115-OA-89). Springfield, VA: National Technical Information Service.

Blumberg, M., & Pringle, C.D. (1982). "The missing opportunity in organizational research: Some implications for a theory of work performance." *The Academy of Management Review,* 7(4), 560-569.

Business Council for Effective Literacy (1987). *Job-related skills: A guide for planners of programs.* BCEL Bulletin Issue no.2. (ERIC: ED 285-974). New York: BCEL.

Carnevale, A.P., Gainer, L. J., & Meltzer, A.S. (1990). *Workplace basics training manual.* San Francisco: Jossey Bass.

Carnevale, A.P., Gainer, L. J., & Meltzer, A.S. (1990). *Workplace basics: The skills employers want.* San Francisco: Jossey Bass.

Chisman, F.P. (1989). *Jump Start: The federal role in adult literacy.* Southport, CT: The Southport Institute for Policy Analysis.

Commission on the Skills of the American Workforce (1991). *America's choice: High skills or low wages!* Rochester, NY: National Center on Education and the Economy.

Eccles, R.G. (1991). "The performance measurement manifesto." *Harvard Business Review,* 69 (1), 131-137.

Foucar-Szocki, D. (1989). *Beliefs about the positive outcomes of management training in the banking industry.* Unpublished doctoral dissertation, Syracuse University, Syracuse, NY.

Gordon, J. (1989). "Industry Report." *Training,* 26 (10), 18-62.

Gordon, J. (1991). "Measuring the 'goodness' of training." *Training,* 28 (8), 19-25.

Henry, J.F., & Raymond, S. (1983). *Basic skills in the U.S. workforce.* New York: Center for Public Resources.

Hall, W., & Sechler, T. (1987). *Adult literacy: Skills for the American workforce.* (ERIC: ED 284-980). Columbus: The National Center for Research in Vocational Education, Ohio State University.

Imel, S. (1989). *The new workforce: Trends and issues alerts.* Columbus: ERIC Clearinghouse on Adult, Career and Vocational Education.

Johnstone, W.B., & Packer, A.H. (1987). *Workforce 2000: Work and workers for the 21st century.* (ERIC: ED 290-887). Indianapolis: Hudson Institute.

Lee, C. (1989). "The three R's." *Training*, 26 (10), 67-76.

Mishel, L. & Teixeira, R.A. (1991). *Myth of the coming labor shortage.* Washington, DC: Economic Policy Institute.

Office of Technology Assessment (1990). *Worker training: Competing in the new international economy.* (OTA-ITE-457). Washington, DC: US Government Printing Office.

Philippi, J.W. (1988). "Matching literacy to job training: Some applications from military programs." *Journal of Reading*, 31(7): 658-666.

Richie, M (1988). "America's new workers." *American Demographics*, 10(2), 34-41.

Sarmiento, A. (1991). "Do workplace literacy programs promote high skills or low wages?" *Labor News.* Washington, DC: National Governors Association.

Stewart, T.A. (1991). "Brainpower." *Fortune*, 123 (11), 44-60.

Stitch, T.G. (1982). *Basic skills in defense.* HumRRO Professional paper no. 3-82. (ERIC: ED 237-776). Alexandria, VA: Human Resource and Research Organization.